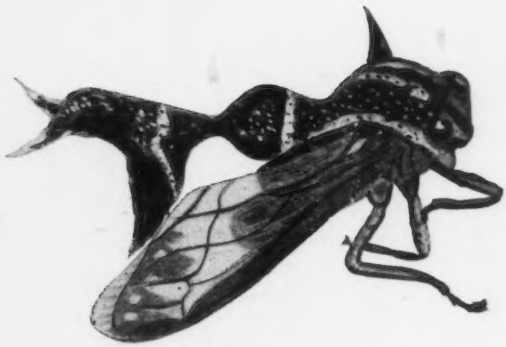
Vol. XIV. No. 6.

ENTOMOLOGICAL NEWS



Heteronotus vulnerans.

JUNE, 1903.

EDITOR:
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EXOTIC LEPIDOPTERA

Ernest Swinhoe, 37 Addison Gardens, London W., England

Will correspondents kindly note that I have left Oxford and that in future my address will be as above.

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OF BOREAL AMERICA

BY CHAS. W. LENG, B.S.

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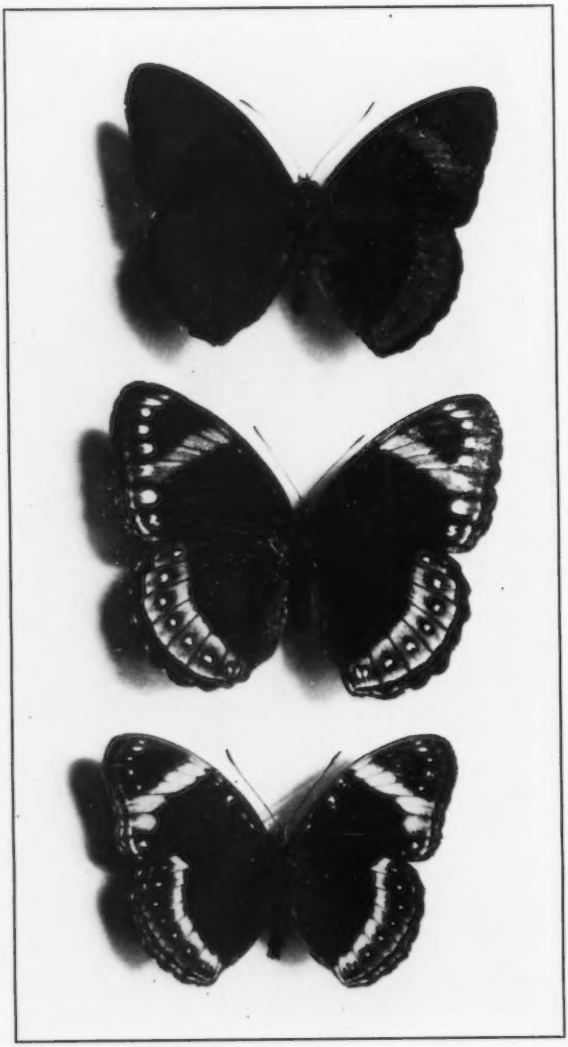

HYPOLIMNAS AURIFASCIA MENGEL

ENTOMOLOGICAL NEWS

AND

PROCEEDINGS OF THE ENTOMOLOGICAL SECTION

ACADEMY OF NATURAL SCIENCES, PHILADELPHIA.

VOL. XIV. JUNE, 1903. No. 6.

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A new species of Hypolimnas from New Hebrides.

LEVI W. MENGEL, Reading, Pa.

Hypolimnas aurifascia sp. nov.—Male. General color above brown, approaching black. On the anterior wings a broad band of orange extends from near the centre of the costal margin three-quarters the distance across the wing to the inner angle. On the inferior wings a broad band of orange runs parallel to the margin from the apex to the anal angle. This band varies in breadth from $\frac{3}{4}$ in. at the apex to $\frac{5}{16}$ at the broadest part, which is near the centre, to $\frac{3}{16}$ of an inch at the anal angle. This band is sharply cut and is not suffused at any point. A narrow band of the brown of the general color borders the exterior margin. In the centre of each nervule, in the orange band, there is a dark brown spot. Under sides of the male generally paler brown on the anteriors, lighter towards the apex. The orange bands show through, but become buff. A few small white spots show on the anteriors near the apex and along the costal margin near the base. The band of the inferiors is darker towards the exterior, and the row of brown spots of the upper surface are marked with small white spots. A narrow band of light buff passes near the margin, separating the broad band from the margin.

The female is of a generally lighter brown. The orange bands of the male are replaced by bands of buff. A row of white spots extends from near the apex to the inner angle, running parallel to the margin. A faint

light band of buff begins midway between the apex and the angle, becoming more pronounced as it reaches the angle. This band separates the margin and the row of white spots. Inferior wings similar to the male. The brown spots in the centre of each nervule larger and marked with a small white spot. Under sides very similar to the upper surface, but lighter and the white spots better defined. Abdomen and thorax dark brown. Expanse, male, 2⅝ in.; female, 2¾ in.

Hab.—Santo, New Hebrides.

A New Variety of Tegrodera (Coleoptera).

By Henry Skinner.

T. aloga n. var.—Head red, antennæ and collar black. Thorax red. Elytra bright yellow, reticulate; black between the reticulations, with apices black. There is a transverse piceous fascia, constricted in the middle of each elytron: elytral sutures black. Abdomen and legs black. The species varies in length from 14 to 26 mm.

Described from sixteen specimens taken on the banks of the Gila River, near Florence Arizona, May 4, 1903, by C. R. Biederman. There is no variation in the specimens, except in size. It differs from *latecincta* Horn in being more coriaceous, the reticulations being much coarser and showing the black background more conspicuously. The transverse elytral fascia in *latecincta* is wider and not constricted in the middle. It may be distinguished at once from *erosa* by the distinct black elytral suture. Dr. Horn considered *latecincta* a race of *erosa* and *aloga* is probably also a race of *erosa*.

A New Variety of Sphinx.

By Henry Skinner.

Sphinx luscitiosa Clem. var. **una** n. var. This variety lacks entirely the buff color of the inner area of the inferior wings so conspicuous in the species. It is much darker on all four wings, and in markings is practically identical with dark examples of *Sphinx eremitus*, from which it differs in the smaller discal spot.

Described from a ♀ specimen received from Mr. Chas. F. Timm, of Brooklyn, New York, who raised it from larvæ which disclosed the normal form except in one additional specimen.

The Moths (Heterocera) of Eastern Pennsylvania.

By Philip Laurent.

(Continued from page 141.)

PYRALIDINA.

Pyraustidæ.

Margaronia quadristigmalis *Gn.*
nitidalis *Cram.*
Diathrausta pisusalis *Walk.*
Desmia funeralis *Hbn* , common.
Cindaphia bicoloralis *Gn.*
Phlyctænia extricalis *Gn.*
Nomophila noctuella *S. V.*, com.
Pyrausta octomaculata *Linn.*
" acrionalis *Walk.*, com.
" insequalis *Gn.*, com.
" signatalis *Walk.*
" niveicilialis *Grt.*, com.
" fumalis *Gn.*, com.
" futilalis *Led.*
" detritalis *Gn.*
" adipaloides *G. & R.*
" oxydalis *Gn.*
" thestialis *Walk.*
" ranalis *Gn.*, com.
" pertextalis Led., com.
" æglealis *Walk.*, com.
" argyralis *Hbn.*, com.
Mecyna reversalis *Gn.*
Pantographa limata *G. & R.*
Crocidophora serratissimalis *Zell.*
Crocidophora tuberculalis *Led.*, com.
Loxostege similalis *Gn.*, com.
" dasconalis *Walk.*
" helvialis *Walk.*
" obliteralis *Walk.*
" cereralis *Zell.*
Eustixia pupula *Hbn.*, com.
Scoparia centuriella *S. V.*
" libella *Grt.*
Evergestis straminalis *Hbn.*, com.
" rimosalis *Gn.*
Lipocosma perfusalis *Walk.*
Cataclysta fulicalis *Clem.*, com.
Homophysa fulminalis *Led.*
" glaphyralis *Gn.*, com.
" sesquistrialis *Hbn.* "
Hydrocampa albalis *Rob.*
" icciusalis *Walk.*
" stenialis *Gn.*

Pyralididæ.

Galasa rubidana *Walk.*
Fabatana oviplagalis *Walk.*
Pyralis farinalis *Linn.*, com.
" costalis *Fabr.*, com.
" olinalis *Gn.*
" sodalis *Walk.*
Aglossa cuprealis *Hbn.*
Epipaschia superatalis *Clem.*
Tetralopha humerella *Rag.*

Phycitidæ.

Acrobasis angusella *Grt.*
Pinipestis zimmermanni *Grt.*
Nephopteryx ovalis *Pack.*
Salebria contatella *Grt.*
Euzophera semifuneralis *Walk.*
Honora oblitella *var.* undulatella *Clem.*
Plodia interpunctella *Hbn.*, com.
Peoria hæmatica *Zell.*

Galleriidæ.

Melissoblaptes fuscolimbellus *Rag.*
Galleria mellonella *Linn.*, com.

Crambidæ.

Argyria nivalis *Dru.*, com.
" aûratella *Clem.*, com.
" pusillalis *Hbn.*
Chilo plejadellis *Zinck.*, com.
" densellus *Zell.*

Crambus leachellus *Zinck.*
" præfectellus *Zinck.*
" laqueatellus *Clem.*
" agiatellus *Clem.*, com.
" " *var.* alboblavellus *Zell.*
" albellus *Clem.*
" girardellus *Clem.*, com.
" ruricolellus *Zell.*
" vulgivagellus *Clem.*, com.
" decorellus *Zinck.*
" elegans *Clem.*, com.
" teterrellus *Zinck.*
" interminellus *Walk.*, com.
" caliginosellus *Clem.*, com.
" luteolellus *Clem.*

Pterophoridæ.

Platyptilia ochrodactyla *Hbn.*
" carduidactylia *Riley.*
Alucitia cretidactylia *Fitch?*
" inquinata *Zell.*
" monodactyla *Linn.*
" homodactyla *Walk.*
" paleacea *Zell.*
" subochracea *Wlsm.*
Oxyptilus periscelidactylus *Fitch.*
" tenuidactylus *Fitch.*com.

TORTRICINA.

Tortricidæ.

Teras hastiana *Linn.*, com.
" nivisellana *Wlsm.*
Cacœcia rosaceana *Harr.*, com.
" obsoletana *Walk.*, com.
" fervidana *Clem.*, com.
Loxotænia clemensiana *Fern.*
Ptycholoma melaleucana *Walk.*
Pandemis limitata *Rob.*
Lophoderus quadrifasciana *Fern.*
" triferna *Walk.*
" velutinana *Walk.*
Tortrix pallorana *Rob.*, com.
" albicomana *Clem.*, com.
" peritana *Clem.*, com.
Amorbia humerosana *Clem.*
Ænectra inconditana *Wlsm.*, com.
Cenopis reticulatana *Clem.*
Dichelia sulfureana *Clem.*, com.
Amphisa discopunctana *Clem.*
Capua furcatana *Walk.*
Platynota flavedana *Clem.*
" sentana *Clem.*

Conchylidæ.

Conchylis straminoides *Grt.*
" argentilimitana *Rob.*

Grapholithidæ.

Bactra lanceolana *Hbn.*
Exartema permundana *Clem.*
" concinnana *Clem.*
" fasciatana *Clem.*, com.
Penthina hebesana *Walk.*
Sericoris coruscana *Clem.*, com.
" instrutana *Clem.*
" bipartitana *Clem.*
Pædisca circulana *Hbn.*
" robinsonana *Grt.*
" ridingsana *Rob.*
" cataclystiana *Walk.*
" abbreviatana *Wlsm.*
" constrictana *Zell.*
" abruptana *Zell.*
" strenuana *Walk.*, com.
" matutina *Grt.*
" desertana *Zell.*
" otiosana *Clem.*
" dorsisignatana *Clem.*
Semasia radiatana *Wlsm.*
" olivaceana *Riley.*
" ferruginana *Fern.*, com.
" striatana *Clem.*
" argutana *Clem.*
Proteopteryx spoliana *Clem.*, com.
Phoxopteris burgessiana *Zell.*
" angulifasciana *Zell.*
" comptana *Froel.*
" cornifoliana Riley.
Grapholitha caryana *Fitch.*
" interstinctana *Clem.*
Carpocapsa pomonella *Linn.*, com.

TINEINA.

Choreutidæ.

Brenthia pavonacella *Clem.*, com.

Anaphoridæ.

Acrolophus plumifrontellus *Clem.*, com.
Anaphora popeanella *Clem.*
" tenuis *Wlsm.*
Pseudanaphana arcanella *Clem.*, com.

Tineidæ.

Xyleſthia clemensella *Cham.*, com.
Scardia cloacella *Haw.*
Tinea acapuspennella *Clem.*
" biselliella *Hum.*
" carnariella *Clem.*
" costosignella *Clem.*
" ferruginella *Hbn.*
" fuscipunctella *Haw.*
" pellionella *Linn.*
" rusticella *Hbn.*
Incurvaria mediostriatella *Clem.*
Hybroma servulella *Clem.*

Gelechiidæ.

Stenoma schlægeri *Zell.*
Cryptolechia quercicella *Clem.*
Machimia tentorierella *Clem.*
Amdrya effrenatella *Clem.*
Gelechia agrimoniella *Clem.*
" alacella *Clem.*
" cereallella *Oliv.*
" flavicostella *Clem.*
Gelechia gallæsterella *Kell.*
" hallipalpis *Walk.*
" mediofuscella *Clem.*
" vagella *Walk.*
Euclemensia bassettella *Clem.*
Ypsolophus contubernatellus *Fitch.*
Æcophora borkhausenii *Zell.*
Blastobasis chalcofrontella *Clem.*
" purpurocomella *Clem.*, com.
Strobisia emblemella *Clem.*
" iridipennella *Clem.*

Gracilariidæ.

Gracilaria robiniella *Cham.*

Coleophoridæ.

Coleophora corruscipennella *Clem.*

Lavernidæ.

Laverna eloisella *Clem.*

Elachistidæ.

Butalis basilaris *Zell.*
Cosmopteryx montisella *Cham.*

Lithocolletidæ.

Bedellia somnulatella *Zell.*
Lithocolletes basistrigella *Clem.*
" faginella *Zell.*
" guttifinitella *Clem.*
" hamadryella *Clem.*
Tischeria ænea *F. & B.*

Lyonetiidæ.

Phyllocnistis vitifoliella *Cham.*
" vitigenella " com.

NOTE.—Since the forepart of this list was published a large number of Micro-Lepidoptera have been identified by Mr. August Busck and Dr. Dyar of Wash., D. C., and I take this opportunity to thank these two gentlemen for their kindness.

So little is known of the majority of our Micro-Lepidoptera, that I have refrained from stating if a species was rare, only marking those species that I know are common. No doubt, the majority of the species are common at certain times and in certain places.

The Coleoptera of the Sacramento Mountains of New Mexico.

By W. KNAUS, McPherson, Kansas.

The writer spent a week in June, 1902, in the Sacramento Mountains of southeast New Mexico, and collected Coleoptera from an elevation of forty-five hundred feet at Alamogordo, to nine thousand feet at Cloudcroft on the summit. Alamogordo, on the western foot hills of the mountains, is eighty-seven miles northeast of El Paso, Texas. Until 1902 these mountains could only be reached by rail over a branch road from El Paso. In the spring of 1902 the Rock Island El Paso line was opened for traffic and access to this range of mountains became easy.

My first day's collecting was up La Luz and Fresnal Canons; from La Luz, at an elevation of forty-seven hundred feet to Highrolls, at an elevation of six thousand five hundred; my last day was on the fourteenth of June at Cloudcroft on the summit. The intermediate days were spent in the upper canons that have their beginning in the vicinity of Cloudcroft, the elevations being from seven thousand to nine thousand feet.

The lower La Luz and Fresnal canons contain little or no timber; what little is seen is the cottonwood and the quaking asp. The vegetation is semi-desert in character, thick fleshy leaves covered everywhere with spines. As the elevation increases pines and spruces begin to appear, and the semi-desert flora begins to change. At Toboggan, at an elevation of eight thousand feet, the flora has entirely changed owing to an abundant precipitation of moisture. The mountain sides are covered with pine and spruce forests which increase in density as the summit is reached. The canon sides and summit are covered thickly in places with a growth of shrubs and scrubby oaks, known locally as "shin oaks," and afford excellent collecting grounds for the entomologist.

At the higher elevations many species of Coleoptera occur which are found in northern New Mexico and southern Colorado; while the lower elevations show species peculiar to the semi-desert or arid fauna.

As my collecting was done the second week in June, before

the July rains, the collector who visits this region in August will find many forms that were absent at the time of my visit.

I collected from three to eight hours each day I was in the mountains, and took two hundred species and over fifteen hundred specimens. Mr. H. C. Fall, of Pasadena, California, kindly assisted in the determination of most of the material; Mr. P. Jerome Schmitt, of Beatty, Pennsylvania, determined the single species each of the Scydmænidæ and Pselaphidæ taken, and Mr. Charles W. Leng, of New York, identified the Coccinelids; to all of whom, and to Mr. T. D. A. Cockerell, of East Las Vegas, N. M., who has added notes and ascertained the number of species new to New Mexico, many thanks are due.

Identifications are sufficiently complete to show that this part of the territory has been collected over but little, for of the two hundred species taken nearly fifty species, or one-fourth, are new or undescribed; a half dozen or more species belonging to new genera. Fifty-seven species are new to New Mexico, eighteen genera are also new to the territory. Forty-six species are new to southern New Mexico. The only Scydmænid ever identified by name from the territory, *Scydmænus californicus* Mots., a Pacific coast Alaskan species, I took at Cloudcroft. In the same upper canon I found three specimens, in ants' nests, of *Articerus fuchsii* Brend., a quite rare myrmecophilus Pselaphid previously recorded from near Las Vegas.

1, 33*a* *Cicindela oregona* Lec. Seven thousand feet. Wootens.
2, 179 *Notiophilus hardyi* Putz. Two specimens, James Canon; first record for southern N. M., 8,500 feet.
3, 215 *Pasimachus duplicatus* Lec. Cloudcroft; new to N. M.
4, 215*a* " *ensifer* Lec. Cloudcroft.
5, 219 " *californicus* Chd. Cloudcroft, 9000 feet. Several each of the above *Pasimachus* were taken.
6, 232 *Dyschirius globulosus* Say. James Canon; a dozen specimens.
7, 345 *Bembidium lugubre* Lec. Common.
8, 347 " *striola* Lec. Two specimens; new to southern N. M.
9, 351 " *lucidum* Lec. Several specimens; common in N. M.
10, 391 " *versicolor* Lec. One specimen; taken by Wickham at Albuquerque also.
11, 408 *Bembidium dubitans* Lec. Sixteen specimens, James Canon; new to southern N. M.

12, 438 *Tachys pumilus* Dej. One specimen; new to N. M.
13, 472 *Patrobus longicornis* Say. One specimen; genus and species new to N. M.
14, 524 *Pterostichus substriatus* Lec.
15, 583 " *luczotii* Dej. Both species common in N. M.
16, 618 *Evarthrus torvus* Lec. Several specimens; new to southern N. M.
17, 629 *Amara laticollis* Lec. Common; new to N. M.
18, " New species.
19, 9270 " *nupera* Horn. Common at Wootens, seven thousand feet; new to southern N. M.
20, 670 *Amara interstitialis* Dej. Common; new to southern N. M.
21, 713 *Dicælus lævipennnis* Lec. Three specimens near Cloudcroft, also taken at Eagle Creek by Townsend.
22, 722 *Dicælus sculpitilis* Say. Three specimens; new to southern N. M.
23, 751 *Calathus dubius* Lec. One specimen.
24, 815 *Platynus placidus* Say. Four specimens.
25, 855 *Zuphium americanum* Dej. One specimen, Alamogordo; genus and species new to N. M.
26, 1080 *Harpalus retracus* Lec. One specimen.
27, 1081 " *amputatus* Say. Several specimens; not found before so far south.
28, 1112 *Harpalus clandestinus* Lec. Several specimens; one recorded at Las Vegas.
29, *Stenolophus.* Species probably undescribed; common.
30, 1155 *Bradycellus cognatus* Gyll. Two specimens; new to N. M.
31, 1188 *Anisodactylus harrisii* Lec. Two specimens; new to southern N. M.
32, 1406 *Agabus cordatus* Lec. Several specimens; Fresnal Creek.
33, 1413 " *lugens* Lec. Same as above; new to southern N. M.
34, 1706 *Silpha lapponica* Hbst. One specimen; new to southern N. M.
35, 1798 *Agathidium revolvens* Lec. One specimen; genus and species new to N. M.
36, 1849 *Scydmænus californicus* Mots. One specimen (genus and species new to N. M.); under bark of quaking asp, Cloudcroft.
37, 1864 *Articerus fuchsii* Bren. Three specimens, with ants, Cloudcroft; new to southern N. M.
38, *Falagria* species. Several specimens, with ants under ash bark.
39, 2055 *Aleochara bimaculata* Grav. Two specimens.
40, *Aleocharina;* genus and species dubious. One specimen.
41, " " " Two specimens.
42, 2105 *Quedius limbifer* Horn. One specimen; new to N. M.
43, 2106 " *lævigatus* Gyll. One specimen; new to N. M.

44, *Quedius æneseens* Makl. One specimen ; new to N. M.
45, *Philonthus.* New species. Four specimens.
46, 2150 " *furvus* Nord. James Canon, common ; new to southern N. M.
47, 2268 *Xantholinus cephalus* Say. Two specimens ; new to N. M.
48, *Tachinus.* New species, near *crotchii.* One specimen.
49, 9712 *Oxytellus invenustus* Casey. Eight specimens, James Canon ; new to N. M.
50, 2840 *Homalium lapponica* Zett. One specimen ; new to N. M.
51, 9832 *Antobium tibiale* Casey. One specimen ; new to N. M.
52, 3046 *Hippodamia convergans* Guer. Wootens ; common.
53, 3049 " *sinuata* Muls. Wootens ; common.
54, *Coccinella plagiata* Casey. One specimen, Cloudcroft ; new to N. M.
55, 3065*a* *Coccinella abdominalis* Say. One specimen, Cloudcroft.
56, 3078 *Psyllobora 20-maculata* Say. Two specimens, Fresnal Creek.
57, *Exochomus hogei* Gorh. One specimen at Wootens ; common at El Paso, Tex.
58, 3183 *Aphorista morosa* Lec. New to southern N. M. Several specimens at Toboggan.
59, 3455 *Orphilus glabratus* Fab. One specimen ; new to southern N M.
60, 3494 *Hister depurator* Say. Common ; new to southern N. M.
61, 3609 *Saprinus plenus* Lec. Several specimens.
62, 3633 *Plegederus transversus* Say. Also taken at Albuquerque.
63, 3634 " *sayii* Mars. One specimen ; new to southern N. M.
64, 3635 " *consors* Horn. One specimen ; new to N. M
65, 3666 *Cercus sericans* Lec. Common ; genus and sp. new to N. M.
66, 3673 *Carpophilus pallipennis* Say. Several specimens ; common in N. M.
67, 3684 *Carpophilus zuni* Casey. One specimen ; new to N. M.
68, 3689*b* *Colastus limbatus* Lec. Common under fresh cut bark ; genus and sp. new to N. M.
69, 3704 *Epuræa immunda* Sturm. Under freshly cut bark ; new to N. M.
70, 3704 " var. *flavomaclata* Mackl. Under bark with preceding sp. ; new to N. M.
71, *Tenebroides ;* species. One specimen.
72, 3923 *Dryops striatus* Lec. Fresnal and La Luz creeks.
73, 4210 *Elater cordatus* Lec. One specimen ; new to N. M.
74, 4233 " *mœrens* Lec. One specimen ; new to N. M.
75, 4245 " *apicatus* Say. One specimen ; new to N. M.
76, 4320 *Melanactes castanipes* Payk. Two specimens ; new to N. M.
77, *Athous,* sp. not described. One specimen.
78, 4628 *Anthaxia æneogaster* Lap. Two specimens.
79, 4634 *Anthaxia flavimana* Gory. One specimen ; new to southern N. M.

80, 4639 *Chrysobothris femorata* Fab. Two specimens; new to southern N. M.
81, 4746 *Agrilus egenus* Gory. Six specimens; new to southern N. M.
82, 4761 *Brachys ærosa* Melsh. Two specimens; new to southern N. M.
83, 4767 *Rhyncheros sanguinipennis* Say. Two specimens; new to southern N. M.
84, 4771 *Lycostoma fulvellus* Lec. One specimen; genus and sp. new to southern N. M.
85, 4823 *Pyractomena angulata* Say. One specimen; genus and sp. new to N. M.
86, *Podabrus*, near *comes* and *mexicanus* Gorh. One specimen.
87, *Telephorus*, new sp.; two specimens.
88, *Telephorini*; genus and sp. dubious. One specimen.
89, *Polemius*, new sp. Two specimens.
90, *Pseudobœus* sp. One specimen.
91, *Attalus* sp. Several specimens.
92, *Trichochrus* sp. One specimen.
93, *Mecomycter fasciatus* Casey. One specimen; genus and sp. new to N. M.
94, 5164 *Clerus spinolæ* Lec. One specimen on yucca; Desert, N. M.
95, 5177 " *nigriventris* Lec. One specimen.
96, *Hydnocera*; species. One specimen.
97, *Hadrobregnus* sp. One specimen.
98, 5457 *Onthophagus coproides* Horn. One sp., dead; James Canon.
99, 5521 *Aphodius crassulus* Horn. New to southern N. M.
100, 5529 " *vittata* Say. Three specimens.
101, 5539 " *anthracinus* Lec. Common; new to southern N. M.
102, 5692 *Macrodactylus uniformis* Horn. One specimen.
103, 5877 *Aphonus clunalis* Lec. Two specimens; new to southern N. M.
104, 5967 *Tragosoma harrisii* Lec. One specimen under pine bark.
105, 5971 *Asemum mœstum* Hald. One specimen; genus and sp. new to N. M.
106, 5973 *Nothorina aspera* Lec. One specimen; genus and sp. new to N. M.
107, 6244 *Toxotus vestitus* Hald. One specimen; genus and sp. new to N. M.
108, *Acmæops* sp. One specimen.
109, 6301 *Leptura propinqua* Bland. Three specimens; new to southern N. M.
110, 6453 *Pogonocherus mixtus* Hald. Six specimens on ash bark.
111, 6550 *Orsodachna atra* and var. Ahr. Common.
112, 6581 *Anomœa militaris* Lec. Three specimens; genus and sp. new to N. M.
113, 6582 *Euryscopa leconlei* Cr. One specimen.
114, *Coscinoptera* new sp. One specimen.

115, 6601 *Chlamys plicata* Fab. One specimen. Also Mesilla valley.
116, 6614 *Cryptocephalus 4-maculatus* Say. One specimen.
117, 6617*a* " *4-guttatus* Suffr. Two specimens; new to southern N. M.
118, *Pachybrachys*. Two specimens.
119, " new sp. Several specimens.
120, " new sp. One specimen.
121, 6711 *Diachus æruginosus* Lec. Two specimens; new to N. M.
122, 6722 *Xanthonia stevensii* Balv. Common; new to N. M.
123, 6767 *Graphops pubescens* Melsh. One specimen; new to N. M.
124, 6819 *Chrysomela flavomarginata* Say. Several specimens, James Canon; new to N. M
125, 6821 *Chrysomela auripennis* Say. One specimen; new to southern N. M.
126, 6889 *Diabrotica lemniscata* Lec. Two specimens; new to southern N. M.
127, 6933 *Œdionychis lugens* Lec. Common in James Canon; new to southern N. M.
128, 10419 *Disonycha politula* Horn. James Canon.
129, " near *mellicollis*. One specimen.
130, 6980 *Crepidodera helxines* Linne. One specimen; new to southern N. M.
131, 10440 *Longitarsus bicolor* Horn. Common.
132, 7058 *Psylliodes punctulata* Melsh. One specimen; genus and sp. new to N. M.
133, 7217 *Zopherus concolor* Lec. Four specimens.
134, 7316 *Eleodes obscura* Say. One specimen; Ancho, N. M.
135, 7319 " *pedinoides* Lec. Two specimens; James Canon.
136, 7327 " *extricata* form *cognata* Hald. Common; *cognata* form new to N. M.
137, *Eleodes*, species dubious; three specimens.
138, " " common.
139, 7350 " *lecontei* Horn. One specimen; new to N. M.
140, 7394 *Iphthimus serratus* Mann. One specimen; new to southern N. M.
141, *Temnochila*, new sp. One specimen.
142, 7417 *Tenebrio molitor* Linn. One specimen; Alamogordo.
143, *Blapstinus*, sp. dubious; common below Cloudcroft.
144, 7532 *Hypophlœus parallelus* Melsh. One specimen; genus and sp. new to N. M.
145, 7661 *Carebara longula* Lec. Two specimens, under pine bark; new to southern N. M.
146, 7719 *Salpingus tibialis* Lec. One specimen; new to N. M.
147, 7766 *Anaspis atra* Lec. Common.
148, 7770 *Anaspis rufa* Say. Not so common; new to southern N. M.
149, 7780 *Mordella scutellaris* Fab. One sp.; new to southern N. M.

150, 7895 *Corphyra lewisii* Horn. Five sp. ; new to N. M.
151, 7922 *Notoxus calcaratus* Horn. Common along Fresnal Creek.
152, *Lappus cursor* Casey. Two spec. ; Fresnal Creek. New to N. M.
153, *Anthicus* near *parallelus.* One specimen.
154, 8037 *Nemognatha immaculata* Say. Two specimens.
155, *Epicauta.* New species ; two specimens ; James Canon.
156, " " " " at Wootens.
157, 8072 *Tetraonyx fulva* Lec. Two specimens.
158, 8207 *Eucnamptus collaris* Fab. Several specimens. Genus and species new to N. M.
159, *Rhynchites.* New species ; near *æratus.* One specimen.
160, 8216 *Deporans glastinus* Lec. Several specimens, beating scrub oak ; genus and species new to N. M.
161, 8228 *Attelabus rhois* Boh. Two specimens ; new to N. M.
162, New species, probably a new genus near *Anametis ;* several specimens.
163, 8262 *Crimodema protracta* Horn. Four specimens, beaten from oaks. Genus and species new to N. M.
164, 8266 *Peritaxia rugicollis* Horn. Several specimens ; new to southern N. M.
165, 8294 *Thricolepis inornata* var. Horn. Two specimens ; new to southern N M.
166, *Thricolepis,* new species. One specimen.
167, New specimen, new genus, near *Pandeletejus.* Several specimens by beating scrub oaks.
168, *Pandeletejus,* new species. Several specimens.
169, *N. Sp.* Genus dub., near *Cyphormimus.* Several specimens.
170, 8408 *Apion proclive* Lec. One specimen, new to N. M.
171, *Dorytomus,* sp. dub. One specimen.
172, *Smycronyx,* sp. dub. One specimen.
173, 8563 *Phyllotrox nubifer* Lec., common. Genus and species new to N. M.
174, 8613 *Magdalis lecontei* Horn. One specimen ; new to southern N. M.
175, *Magdalis,* new species. One specimen.
176, 8641 *Anthonomus sycophanta* Walsh. One specimen ; new to N. M.
177, 11055 *Tychius subfasciatus* Casey. One specimen ; new to N. M.
178, 8711 *Læmosaccus plagiatus* Fab. Common ; on shin oaks ; new southern N. M.
179, 8808 *Piazurus californicus* Lec. One specimen ; genus and species new to N. M.
180, 8845 *Ceutorhynchus pusio* Mann. One specimen ; new to N. M.
181, " *æratus* Dietz. One specimen ; new to N. M.
182, 11022 *Baris aprica* var. Casey. One specimen ; new to N. M.

183, 8883 *Trichobaris texana* Lec. One specimen; common in Mesilla Valley.
184, 11180 *Calandrinus obsoletus* Casey. One specimen, Ancho, N. M. New to N. M.
185, *Balaninus* sp. One specimen.
186, 9059 *Pityophthorus retusus* Lec. Ten specimens; new to southern N. M.
188, 9093 *Xyloterus bivittatus* Kirby. Three specimens; new to southern N. M.
188, 9025 *Tomicus plastographus* Lec. Two specimens under pine bark; new to southern N. M.
189, 9149 *Scolytus praeceps* Lec. Three specimens; new to N. M.
190, " species probably new. One specimen.
191, *Chramesus*, new species. Two specimens.
192, *Hylesinus*, species probably new.
193, 9179 *Dendoctronus terebrans* Oliv. One specimen.
194, 9180 " *similis* Lec. Three specimens.
195, *Hylastes*, new species. One specimen.
196, 9201 *Hylurgops subcostulatus* Mann. Three specimens; new to N. M.
197, 9207 *Allandrus bifasciatus* Lec. Three specimens; new to southern N. M.

Also several specimens not sufficiently studied to allow of recognition.

Before stopping in the Sacramento Mountains, I spent three days at El Paso, Texas, and devoted a few hours each day to collecting in the Rio Grande valley above and below El Paso, and in the foot hills just north of the city. Owing to the prolonged drouth, vegetation was badly parched, and insect life was reduced to the minimum. Only about twenty-five species were taken as the following list shows:

1, 39 *Cicindela tenuisignata* Lec. A specimen on saline bar near Rio Grande river, north of El Paso.
2, 51 *Cicindela sperata* Lec. Three specimens as above; fairly common.
3, 367 *Bembidium nubiculosum* Chd. One specimen in the Rio Grande valley.
2, 2251 *Actobius paederoides* Lec. Two specimens.
5, *Exochomus hogei* Gorh. Common on flowering shrubs in foothills north of El Paso.
6, 3101 *Hyperaspis fimbriolata* Melsh. Several specimens beaten from flowering shrubs north of El Paso.
7, *Hyperaspis* var. *pluralis* Casey. Same as species.
8, 3102 " *lateralis* Muls. Two specimens, foothills north of El Paso.

9, 3750 *Cybocephalus nigritulis* Lec. One specimen.
10, 6141 *Batyle suturale* Say. Common in Rio Grande valley.
11, 6584 *Coscinoptera æneipennis* Lec. One specimen by beating.
12, 6587 " *axillaris* Lec. Several specimens by beating.
13, *Chlamys memnonius* Lec. One specimen by beating.
14, 6622 *Crytocephalus leucomelas* Suffr. Two specimens, beating willows along Rio Grande River.
15, *Pachybrachys* sp. One specimen Rio Grande valley.
16, 6738 *Myochrous denticollis* Say. One specimen Rio Grande valley.
17, 10416 *Disonycha crenicollis* Say. Common, Rio Grande valley.
18, *Bruchus* sp. One specimen.
19, 10500 *Emmenastes nitidus* Casey. Rio Grande valley.
20, 7307 *Eusattus reticulatus* Say. Two specimens.
21, 7599 *Hymenorus punctatissimus* Lec. One specimen.
22, 7644 *Hyporhagus opuntiæ* Horn. One specimen by beating; Rio Grande valley.
23, 10785 *Elissa laticeps* Casey. Beaten from low flowering shrub north of El Paso.
24, *Apion*, new species. Beaten from flowering shrub same as above. Common.
25, 11052 *Tychius simplex* Casey, common. Beaten from flowering shrubs with new species of *Apion*.

Culex atropalpus Coquillett.

By Harrison G. Dyar.

This rather pretty little mosquito is found in the vicinity of swift streams. The larvæ are found only in the water-filled pot holes that occur in the rocks along such places. I have recorded the species from New Hampshire and on the Potomac River in Maryland. In the latter place it was abundant, both as larvæ and adult. The adults were very troublesome on and about the river, biting freely. The eggs are laid in patches on the rock sides of the pot hole, just at the surface of the water, usually at a time when the water is low. The winter is passed in this state. Doubtless some of the eggs must be destroyed during the winter and spring when the pot holes are filled by the swollen stream and disturbed by ice and stones carried by the current. Those that remain hatch early, but in an irregular manner. Eggs obtained in October began to hatch in March and continued to hatch irregularly for some weeks, so

that larvæ of all sizes occurred in the jar. The growth is slow and it seems doubtful if the March larvæ will give adults before May. The larvæ are rather deliberate in their motions and habitually remain long below the water. They can be seen browsing along the sides of the jar well below the surface, feeding on the green Protococcus that grows there. Occasionally they rise and push the breathing tube through the surface film for a few seconds, but they do not remain hanging there but shortly descend to resume browsing. The anal processes are long and well supplied with tracheæ, which permits the larvæ to remain long under water. It would seem as if there should be more than one brood in a year, but I am not certain that this is the case. Larvæ are found late in Fall and probably many remain in the pot holes after the water freezes; but such must perish, as they could never withstand the rush of the spring floods even if they survived the winter in the ice. The adults do not seem to live long. Those bred in October lived but a few weeks and I doubt whether they normally hibernate.

I have described the eggs and mature larvæ (Jour. N.Y. Ent. Soc., x, 195, 1902). In the first stage the head is round, flattened, evenly rounded, narrowed before the antennæ, blackish infuscated, eyes elliptical, black, antennæ moderate, uniform, infuscated, a single hair a little before the middle, terminal hair and spines normal; labial plate small with pronounced central tooth, side teeth minute; brushes normal. Thorax enlarged, flattened; body submoniliform, tapering posteriorly-normal; thoracic hairs longer than the width of thorax, delicate, moderate; abdominal hairs distinct on five segments but weaker and fewer posteriorly, twice as long as the width of a segment, very weak on the sixth segment, invisible on the seventh and eighth. Lateral comb of the eighth segment a single row of stout spines. Tube colorless, with a small terminal, infuscated ring. Anal segment dorsally plated, plate infuscated, a stout dorsal tuft, no ventral brush. Anal processes four, about as long as the segment, conical, with numerous tracheæ.

In the second stage the head is darkly blackish, the body pale. Hairs stronger, diminishing posteriorly. Air tube short,

about twice as long as wide, slightly constricted conical, infuscated, with a double pecten behind that runs nearly to the tip. Anal segment with a small dark dorsal plate, ventral brush present, small, with a few small hairs before the barred area. Comb of the eighth segment a single row of stout, short spines. Antennal tuft at middle of joint, the antennæ all blackish.

In the third stage the head is rounded, blackish brown; antennæ uniform, blackish with very slight tuft at the middle of the joint; mouth brush moderate brown. Body normal, hairs moderate, distinct on the first five abdominal segments, diminishing to very fine short hairs posteriorly. Tube not quite twice as long as wide, constricted conical, stout, darkly infuscated, the pecten reaching three-fourths to the tip and exceeding the single tuft which is at about the middle of the tube. Anal segment with small dorsal plate, brush and tuft normal, small, the brush with a few slight hairs preceding the barred area. Comb of eighth segment a patch of spines about three rows deep.

Provespa a New Genus in the Vespidae.

By William H. Ashmead.

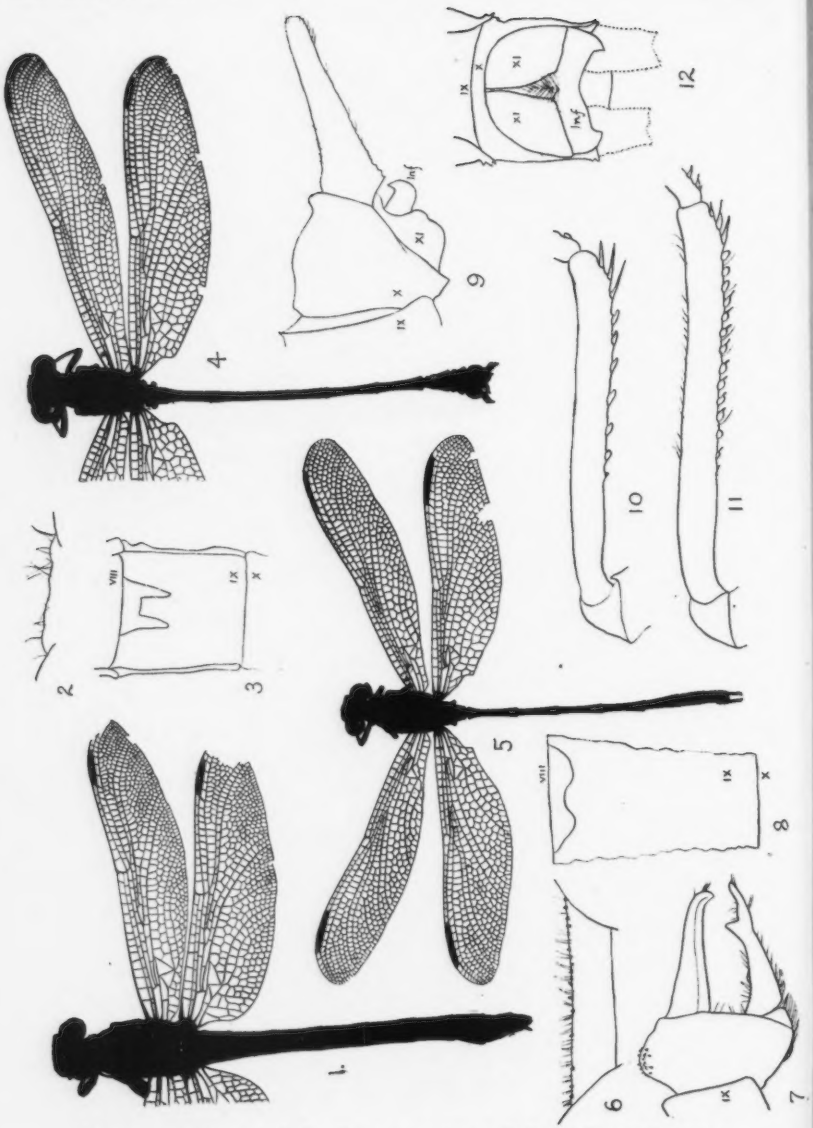
In arranging the *Vespidæ* in the National Collection I find quite a large series of *Vespa dorylloides* Saussure, collected by W. L. Abbott, in Trong, Lower Siam, which I find cannot be placed in *Vespa* Linné as now restricted, and for which I propose to erect a new genus *Provespa*, easily separated from *Vespa* L. by the aid of the following table:

Third cubital cell along the radius fully as long as the cubitus or a little longer.

Ocelli large, rather close together, the lateral almost touching the eye margin, not their width from it; abdomen rounded at base, not truncate . . . . . **Provespa,** gen. nov.
(Type.—*Vespa dorylloides* Saussure.)

Ocelli small, the laterals far from the eye margin, at least thrice their width from it; abdomen truncate at base . . . . **Vespa** Linné.
(Type.—*V. vulgaris* L.)

Lepidotrama, n. n. for *Trama*, Harvey, Bull, Buff. Soc., 1875, p. 13, (not *Trama* Heyd., Stett. Ent. Zeit., 1857).—T. D. A. Cockerell.



GOMPHUS OLIVACEUS, 1, 6, 8. EPIGOMPHUS LLAMA, 2, 3, 7. E. TUMEFACTUS, 4.
E. SUBOBTUSUS, 10, 11. DIAPHLEBIA NEXANS, 5, 9, 12.

On Some American Gomphinae (Odonata.)

By Philip P. Calvert, Ph. D.

University of Pennsylvania, Philadelphia.

(With Plate VIII.)

The following paper has grown out of some preliminary studies on the Gomphinæ for the Biologia Centrali-Americana edited by Mr. F. D. Godman, F.R.S., of London.

1. On DIAPHLEBIA.

In 1858, de Selys* compared *Epigomphus paludosus*, of his legion Gomphus, with *Diaphlebia angustipennis*, of his legion Gomphoides, as to their similarity in the "front très-déprimé, ... la coloration du corps . . . . le forme du bout des ailes," but adds, "les triangles libres et leur proportion empechent de passer plus loin la comparison." The discovery of a second species of *Diaphlebia*, *D. semilibera*, in which all the triangles are free except the discoidal triangle of the hind wings, again led him to a comparison with *Epigomphus*, and to point out the possibility of confusing them "si. par exception tous les triangles [of *Diaphlebia*] se trouvaient libres."† He considered that the greater length of the triangle of the hind wings and, in the males, the shape of the superior appendages and anal angle of the hind wings of *Diaphlebia* suffice to avoid such confusion.

He does not mention, however, that the same interesting possible "exception" in this genus would also constitute an exception to the primary character of the legion Gomphoides. The possibility is almost realized in *one* of two males described below as *Diaphlebia nexans* n. sp., in which all the triangles are free except the discoidal of the right hind wing (See Plate VIII, fig. 5). The significance of such conditions as exist in *D. semilibera* and *D. nexans* may perhaps be that they indicatea genealogical transition from the legion Gomphoides to the legion Gomphus via *Diaphlebia* and *Epigomphus*. This

* Monographie des Gomphines, p. 87.

† Bulletin, Acad. Belg. (2) xxxiii, p. 198, 1869.

suggestion must not be interpreted as implying that the former was, or is, the ancestor of the latter, but merely that these two may be survivals of a group of genera which made such a transition.

Diaphlebia and Epigomphus agree in the possession of the following generic characters: All wings: two rows of posttriangular cells out to at least the level of separation of subnodal and principal sectors, no supra-triangular cross-veins. *Front wings:* short sector and the first sector of the triangle diverging, only one row of postcostal cells to beyond the level of the triangle, not more than two rows between the second sector of the triangle and the hind margin of the wing.* *Hind wings:* no anal loop. *Males* without a median inferior distal carina on the tibiæ.

The generic characters of Diaphlebia which are different from those of Epigomphus are: All wings: no basal subcostal crossvein, arculus usually at second antecubital, its sectors separated throughout by an interval considerably greater than the thickness of either sector, one submedian cross-vein (*sensu Selysii*, 1896), proximal end-vein of pterostigma prolonged to the principal sector but no thicker than the other cross-veins between the median vein and the principal sector, first and fifth or sixth antecubitals thicker than the others. *Front wings:* proximal angle of discoidal triangle as far distally from the arculus as the length of the proximal side of the internal triangle, 9–10 marginal cells between the short sector and the first sector of the triangle. *Hind wings:* not more than two rows of cells between the second sector of the triangle and the hind margin, anal triangle in the males three-celled, not reaching to the anal angle. *Head* (viewed from in front): inferior angle of the triangle formed by the ocelli about 120°; *Abdomen* ♂: eighth segment widest of all the apical half. *Tibiæ:* no differentiation in the spines.

Diaphlebia nexans n. sp. (Pl. viii, figs. 5, 9, 12).

♂. Lips and face pale green marked with dark brown as follows: a

* 7.7 per cent. of the 52 wings of *Epigomphus* examined had three rows for a distance of 2, 3 or 4 cells.

narrow border and a large median spot on the labrum, a spot on each side of the frons anteriorly and of the nasus (or the greater part of these last two areas). Ocellar and antennal region brown, vertex and occiput green, the last brown on each side, its hind margin slightly concave. Rear of the head pale green.

Prothorax pale green or yellow, median lobe with a large brown spot each side of the dorsum.

Thoracic dorsum brown, anterior margin, median carina, and two antehumeral stripes each side, green; the last consist of an inner (more mesial) stripe, not reaching the anterior border, slightly divergent downward from its fellow of the opposite side, and an outer (more lateral), narrower stripe placed very little in front of the humeral suture, interrupted near its upper end to form an inverted ‼, or not interrupted and confluent with inner antehumeral stripe, its lower end confluent with the yellow mesinfraepisternum. Mesepimeron and metapleuron pale green, an irregular narrow brown stripe on the (obsolete) 1st and on the 2nd lateral sutures. Thoracic sterna very pale green.

Abdomen pale green or yellowish green, marked with dark brown as follows: a pair of basal dorsal spots on 1, a stripe on each side of dorsum of 2 (above the auricles which are green and have a few very minute black denticles), leaving between them a mid-dorsal trilobed stripe; a median spot on the second fifth (very indistinct in one ♂) and a pair of small anteapical spots on the dorsum of 3–6, each of the paired spots being confluent with a lateral band, which may occupy the apical half of the sides of the segments, but is not visible in dorsal view; a transverse band on 7–9 occupying the third quarter of the segments on the mid-dorsal line, but of greater extent as they pass down on the sides of the segments, especially on 9 where they attain almost the entire segmental length. 10 brown, with a median dorsal green spot.

Superior appendages twice as long as 10, pale green, almost straight, slightly tapering toward the apex, which is obtuse and slightly curved inward; in profile view the inferior margin shows an obtuse angle immediately after the base, from the distal side of which angle proceeds an inferior, minutely spinulose carina.

Inferior appendage very short, in profile view seen to begin anterior to the base of the superiors, its upcurved and acute apex not quite reaching to the inferior basal angulation thereof; viewed from below, the appendage is quite broad, with a wide but shallow apical emargination, the two tips thus formed each ending in an upwardly-directed denticle giving the appearance seen in profile.

Legs pale greenish yellow, tibiæ, tarsi and anterior surfaces of the first and second femora brownish.

Wings faintly brownish, reticulation brown, costæ yellow anteriorly. Pterostigma ochre, surmounting 5–6 cells. All inner triangles free. Discoidal triangles of front wings with the anterior side equal to or slightly

shorter than the proximal side, free in both front wings of one male, free (right), crossed from proximal to distal side (left) in the second male. Discoidal triangles of hind wings free (left) or crossed from anterior to distal side (right) in one male, crossed on both sides in second male. In the first mentioned male therefore only one of all the triangles is crossed, namely on the right hind wing. Front wings with 13-14 antecubitals, 11 postcubitals; hind wings with 9-11 antecubitals, 11-12 postcubitals.

♀ unknown.

Dimensions.—Abdomen 35, hind wings 29, pterostigma of front wings 4.5, of hind wings 5, superior appendages 2 mm.

Hab.—Chapada, Brazil, two males, probably by H. H. Smith, one labelled December (sup. apps. lost), in the Museum of Comparative Zoology, Cambridge, Mass.

Differs from the described species *D. angustipennis* Selys and *D. semilibera* Selys by the greater extent of pale coloring on the abdomen and fewer postcubitals on the front wings; from *semilibera* also by its smaller size and apparently the shape of the superior appendages.

II. On **EPIGOMPHUS.**

Epigomphus differs from *Diaphlebia* in the following respects:

All wings: one basal subcostal cross-vein (*98.1**), arculus distal to the second antecubital at least of the subcostal series (*98.1*), its sectors for a short distance beyond their origin separated by an interval less than the thickness of either sector (*100*), more than one submedian cross-vein (*sensu Selysii* 1896) (*96.2*), proximal end-vein of pterostigma not prolonged to the principal sector† (*100*). *Front wings:* first and sixth, seventh or eighth antecubital thicker (*92.3*), proximal angle of the discoidal triangle farther distally from the arculus than the length of the proximal side of the internal triangle (*80.8*), 12–16 mar-

* The figures in parentheses indicate the percentage of 26 individuals examined in which the character existed as stated immediately preceding each parenthesis. Thus, of the 104 wings of the 26 individuals, one wing had no basal subcostal cross-vein, one wing had two such veins, leaving 102 wings or 98.1 % as stated above.

† Occasionally a cross-vein does occur immediately below the proximal posterior angle of the pterostigma, but even in such cases it is not in prolongation of the proximal end-vein, nor is it thicker than its fellows.

ginal cells between the short sector and the first sector of the triangle (*92.3*). *Hind wings:* first and sixth or seventh antecubitals thicker (*94.2*), at most four, often only three, rows of cells between the second sector of the triangle and the hind margin (*96.2*), no anal triangle (*100*). *Head* (viewed from in front): inferior angle of the triangle formed by the three ocelli about 90° (*100*). *Abdomen* ♂: 10th segment widest, or 8–10 of equal width in *E. llama* n. sp. *Tibiæ:* antero-inferior row of spines on the third tibiæ of the males much shorter than those of the postero-inferior row and blunt at the tip. Auricles on the second abdominal segment well developed in both sexes.

The differentiation in certain tibial spines, above stated, constitutes a secondary sexual character hitherto unnoticed. Stages in the differentiation are shown in Pl. viii, figs. 11 and 10.

SYNOPSIS OF SPECIES OF *Epigomphus*.

♀ 1. One pale green antehumeral stripe and a more posterior superior pale green antehumeral spot, the latter representing the upper end of the second antehumeral stripe of ♀II.

Males.

10th abdom. seg. with a dorsal tubercle about one-third as high as the segment itself, spinulose at tip.

Dorsal tubercle of 10 somewhat elongated transversely and divided by a shallow median emargination into right and left halves. Superior appendages slightly longer than 10, outer and inner edges slightly convergent in dorsal view; in profile view the upper and lower edges diverging to two-thirds the length of the appendage at which point the lower edge slants obliquely upward to form the moderately acute apex. Inferior appendage one and one-half times as long as the superiors, widely bifid in its apical three-fourths, its branches more divaricate than the superiors, each branch with a superior tooth at three-fourths the length of the appendage (just beyond the level of the tips of the superiors), and terminating in a backwardly (caudad), inwardly (mesad) and downwardly (ventrad) truncated apex bearing a dense tuft of hairs . . . . . **paludosus.**

Dorsal tubercle of 10 not elongated transversely, nor emarginate at tip. Superior appendages about twice as long as 10, gradually tapering to the obtuse apex which is curved downward and

slightly outward. Inferior appendage as long as the superiors, widely bifid in its apical three-fourths, its branches not quite as divaricate as the superiors, slightly divergent in their basal half, slightly convergent in their apical half, the place of change of direction coinciding with the position of an acute superior tooth; tip of each branch obtusely rounded, no apical tuft of hairs; each branch has also a smaller basal superior tooth. **llama** n. sp.

10th abd. seg. with no dorsal tubercle, a double median group of spinules taking its place.

Superior appendages somewhat longer than 10, each one in dorsal view having the inner edge concave, the outer convex and almost angulate at two-thirds' length whence the appendage is obliquely truncated backwardly and inwardly to form a rather acute apex; in profile upper and lower edges divergent to the apex which is emarginated almost in a semi-circle, thus forming two rather acute tips, only the upper of which is clearly visible in dorsal view. Inferior appendage three fourths as long as the superiors, widely bifid in its apical half, branches less divaricate than the superiors, each branch with an acute, superior, basal tooth near the outer margin and a bifid apex (seen in dorsal view), the outer part of which is the stouter and is directed laterally outward, while the inner part is directed backward; no apical tuft of hairs . . . . **quadracies** n. sp.

Superior appendages slightly longer than 10 (which is greatly swollen), similar in dorsal view to those of *quadracies;* in profile view directed downward, apex obliquely truncated upwardly (dorsad) and backwardly (caudad), the truncated margin crenulate. Inferior appendage three-fourths as long as the superiors, widely bifid in its apical half, branches much less divaricate than the superiors, each branch with a simple obtuse apex and 4–5 superior denticles in a row parallel to its inner margin . . . . . **tumefactus** n. sp.

Superior appendages hardly longer than 10 (which is swollen), subconical, thicker at the base on the inner side, divaricate as much as the width of the segment, apex obtuse, curved a little downward and inward and resting on the fork of the inferior. Inferior appendage longer than the superiors, divided as far as the base, its branches as divaricate as the superiors, curved upward, and in profile view forked at the tip, upper branchlet acute, the other with its tip enlarged in the form of a palette, emarginate in a semi-circle exteriorly, with a strong tuft of yellow hairs in the emargination. (From de Sely's description). **obtusus.**

Females.

Spines of the distal half of the antero-inferior row, third femora, 7–9 in number, not markedly longer than on the basal half of the same femora.

Femora pale brown or yellowish.

Appendages and rudimentary 11th abd. segment between them one-third as long as 10, pterostigma of front wings 3.25 mm. long, occiput very low, almost straight, a little swollen on each side posteriorly. (From de Sely's description.) . . . . **paludosus.**

Appendages and rudimentary 11th abd. seg. between them almost as long as 10, pterostigma of front wings 4–4.5 mm. long, occiput with a pair of low elevations in the median third and a slightly higher superior tubercle on each side . . **llama** n. sp.

Femora bordered with black, pterostigma of front wings 3 5 mm. long. (From de Sely's description) . . . . . **obtusus.**

Spines of the distal half of the antero-inferior row, third femora, 5 in number, much longer than the spines on any other part of these, or of the first or second, femora and nearly as long as the tibial spines; femora pale yellow (individual teneral, abd. segs. 6–10 lost), pterostigma of front wings 4 mm. long, median dorsal third of occiput slightly elevated, no lateral superior tubercles. **quadracies** n. sp.

♀ II. Two narrow pale green or yellow antehumeral stripes, the posterior one very close to the humeral suture.

Males.

10th abd. seg. convex and slightly swollen dorsally, no tubercle, but with a double median group of spinules representing it. Superior appendages slightly longer than 10, each one in dorsal view having the outer and inner edges almost parallel, apex obliquely truncated backwardly (caudad) and inwardly (mesad), both the outer and inner angles of the truncation slightly produced; in profile view curved downward, especially in the apical half, terminating in an obtuse apex. Inferior appendage as long as the superiors, widely bifid in its apical three-fourths, branches less divaricate than the superiors, with no superior teeth, with simple slightly upturned apices, no apical tuft. **subobtusus.**

Females.

Spines of the distal half of the antero inferior row, third femora, about 5 in number, much longer than the spines on any other part of these, or of the first or second, femora and nearly as long as the tibial spines; femora pale brown, pterostigma of front wings 3 mm. long, occiput with no median elevation, but with a well-marked superior tubercle each side . . . . **subobtusus.**

MEASUREMENTS, ETC.

	paludosus		*llama*		*quadracies*		*tumefactus*		*obtusus*		*subobtusus*	
	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀
Abdomen (mm.)...	36–	42–	35.5	40.5	39–		42		35–	43	37.5	
	40.5	44	–40	–42	40.5				37		–41.5	
Hind wing (mm.)..	30–	34–	31–	37	33.5	34	38		31–	35	33–	35
	32	37	35.5						33		36	
Pterostigma (mm.)												
front wings.....	3	3.25	3–	4–	3.5	4	3.5		3	3 3.5	3.5	3.5
			3.5	4.5							–3.75	
hind wings.....	3.5	4	3.5	4.5	4	4.5	3.75				4	4
	–4		–4				–4					
Superior appenda-												
ages ♂ (mm.)...	1.5		2.5		2		2				2 5	
											–3	
Appendages ♀												
(mm.).....		.5		1								
Front wings	14–	16–	17–	17–	18–	17–			18–		18–	17–
antecubitals.....	16	17	18	19	19	18	20		19		20	18
postcubitals.....	11-12	10-12	11–	12–	14–	13–	16–		10–	14	13–	13
			14	14	15	15	18		13		14	
Hind wings	10–		12–	13–	13–	12–	13–				13–	
antecubitals.....	12	12	13	15	14	13	14				15	13
postcubitals.....	10–	10–	11–	11–	13–	12–	15				11–	11-12
	13	12	13	15	14	14					13	

BIBLIOGRAPHY AND DISTRIBUTION.

Epigomphus Selys, Bull. Acad. Belg., xxi (2), p. 59 (1854), (2), xxviii, p. 188 (1869), (2) xxxv, p. 754 (1873), (2) xlvi, p. 468 (1878); Mon. Gomph., p. 84 (1858). Kirby, Cat. Odon., p. 71 (1890).

1. **E. paludosus** Selys, *ll cc.*, pp. 60 (1854), 756 (1873), 468 (1878), 85 (1858). Needham, Proc. U. S. Nat. Mus., xxvi, p. 715, f. 8 (venation), (1903).

Hab.—Brazil, Minas Geraes. I have studied 2 ♂, colls. Mus. Comp. Zool., Calvert.

2. **E. llama** n. sp. (pl. viii, figs. 2, 3, 7).

Hab.—Chulumani in Bolivia, December 1, 3, 4, 27, 31, 1898, Jan. 2, 3, 5, 1899. 9 ♂, 5 ♀, all by W. J. Gerhart, coll. Acad. Nat. Sci. Phila.

3. **E. quadracies** n. sp.

Hab.—San Isidro, Guatemala, 1 ♂ by Champion in coll. Godman; Chiriqui 1 ♂, 1 (broken) ♀ in coll. McLachlan.

4. **E. tumefactus** n. sp. (pl. viii, fig. 4).

Hab.—Cache in Costa Rica, 2 ♂ by H. Rogers in coll. Godman.

5. **E. obtusus** Selys, *ll.cc.* pp. 187 (1869), 757 (1873), 468 (1878).

Hab.—Santo Paulo and Peba, Upper Amazons; Bogota. I have not seen this species.

6. **E. subobtusus** Selys, *l.c.* p. 467 (1878). (Pl. viii, figs. 10, 11.)

Hab.—Mexico, Guatemala, Costa Rica. I have studied 4 ♂ 1 (broken) ♀ in colls. Godman, U. S. Nat. Mus.

III. On **Gomphus olivaceus** Selys.

Among the Gomphinæ loaned to me by Mr. McLachlan for study in preparing the Biol. Cent. Am., I find the type of this species. As *olivaceus* is apparently unknown to us in America I give some figures from the type (see Pl. viii, figs. 1, 6, 8) and the following statement of differences from *G. plagiatus* ♀ to which it was compared by Selys.

♀. Hind margin of occiput with about 13 black denticles at irregular intervals for its whole length (absent in *plagiatus*).

Pale green antehumeral stripes wider (*i e.* each is about as wide at its lower end as the distance from its inner edge to the mid-dorsal carina, while in *plagiatus* ♀ this stripe is hardly half as wide as the distance mentioned), the outer edge convex (concave or straight in *plagiatus*), confluent at lower (anterior) end with the green of the anterior mesothoracic border (sometimes not confluent in *plagiatus*); green humeral stripe represented by a narrow inferior streak and a superior round spot, hence interrupted (not interrupted in *plagiatus*); no distinct brown stripes on the lateral thoracic sutures as there are in *plagiatus*.

Yellow dorsal band on abdomen more abruptly broader at bases of 2-7, on 6 and 7 forming a transverse basal ring which is confluent with the yellow of the inferior lateral surfaces, dark colors of the same segments blacker than in *plagiatus*; dorsum of 8-10 chiefly black, with a basal dorsal yellow spot half as long as the segment on 8 and 10 and one-third as long as 9, sides of 8-10 yellow (8-10 reddish brown in *plagiatus*); tips of the two lobes of the vulvar lamina much less acute; pterostigma shorter, 4 mm. (4.5 mm. in *plagiatus*).

EXPLANATION OF PLATE VIII.

Fig. 1. *Gomphus olivaceus* Selys. Female type in coll. R. McLachlan. Apex of abdomen somewhat distorted. × 1.3.

Figs. 2, 3. *Epigomphus llama* n. sp. ♀. 2, hind margin of occiput × 12.; 3, vulvar lamina. × 9.

Fig. 4. *Epigomphus tumefactus* n. sp. ♂. × 1.08.

" 5. *Diaphlebia nexans* n. sp. ♂. × 1.38.

" 6. *Gomphus olivaceus* Selys. ♀ type, occiput. × 15.

" 7. *Epigomphus llama* n. sp. ♂. Profile, left side of apex of abd.

" 8. *Gomphus olivaceus* Selys. ♀ type, vulvar lamina. × 9

" 9. *Diaphlebia nexans* n. sp. ♂. Profile, left side of apex of abd. × 15.

" 10, 11. *Epigomphus subobtusus* Selys, ♂, two third tibiæ showing modified spines of antero-inferior row; 11 less modified, 10 more modified. × 11.

" 12. *Diaphlebia nexans* n. sp. ♂, ventral view, apex of abdomen; bases of the superior appendages dotted. × 15.

Figs. 1, 4 and 5 from photographs by Dr. Henry Skinner, the others from camera drawings by the author. Roman numerals indicate abdominal segments.

Two New Parasitic Hymenoptera.

By William H. Ashmead.

Mr. Otto H. Swezey of the Ohio State University, Columbus, Ohio, has recently bred three interesting hymenopterous parasites from a homopterous insect *Ormenis septentrionalis*, two of which prove to be new and are described below at his request.

Family BETHYLIDÆ.

Dryinus ormenidis, new species.

Female.—Length 4 to 4.5 mm. Black; clypeus, first five joints of the antennæ and the last joint (sometimes the last two joints) pale ferruginous, the scape beneath pale, the intermediate joints black or blackish; palpi and tarsi pale or yellowish-white; mandibles, a spot at the sides of the pronotum posteriorly and the legs, except the middle and hind tibiæ, which are black or fuscous, rufous, the tarsi pale; front wings fuscous at base to the basal nervure except at the extreme base, and a broad fuscous band from the apical half of the stigma across the wing but ending before attaining the hind margin, otherwise hyaline, the veins brownish or fuscous, the base of the stigma whitish; abdomen shining black, the apical segments especially along the venter, more or less and the sides and apex of the pygidium testaceous.

Type.—Cat. 6766, U. S. N. M.

The species was first bred by Miss Mary Murtfeldt, at Kirkwood, Mo., from *Ormenis pruinosa* Say, and now by Mr. Otto H. Swezey, at Columbus, Ohio, from *O. septentrionalis*. He has also bred *Gonatopus* (Labeo) *typhlocybæ* Ashm. from the same host.

Family ENCYRTIDÆ.

Cheiloneurus swezeyi, new species.

Female.—Length 1.5 mm. Brownish-yellow above, the scutellum bright rust red, with a tuft of black bristles at apex; eyes large, brown-black with a faint purplish tinge in certain lights; the temples, cheeks and the thorax beneath pallid or whitish, the mesosternum with a black streak; the abdomen, especially above, blackish or dark brown; antennæ broken; front wings hyaline towards base, fuscous on apical two-thirds and with a purplish iridescent spot at lower apical corner. The mesonotum is clothed with a fine, short, silvery pubescence.

Male.—Length 0.8 to 1 mm. Colored similar to the female, only the thorax is more whitish at sides and beneath, the tuft of hairs on scutellum sometimes absent, the head smaller, the legs yellowish, the trochanters and base of femora white, the middle femora and tibiæ, except a pale annulus at base, more of a brownish-yellow, the latter with a blackish pubescence outwardly; tarsi pale; wings clear hyaline.

Type.—Cat. No. 6767, U. S. N. M.

Described from 2 ♀ and 3 ♂ specimens in poor condition. Mr. Swezey reports this from *Dryinus ormenidis*, but *Cheiloneurus* is parasitic on Coccids and some mistake has been made. I see no reason why it might not be a primary parasite on *Ormenis*, which in the larval stage resembles a mealy-bug.

The Psychophora Mix-up.—II.

By Harrison G. Dyar.

I have previously referred to the identification of the genus *Psychophora* (Ent. News, xiii, 191, 1902) as made by Dr. Skinner and differing from that generally accepted. References to the species *P. sabinii* Kirby are given in Dr. Skinner's article (Ent. News, xiii, 141, 1903), and by Pagenstecher (Fauna Arctica, ii, 323, 1901). The old identification of the genus is typified in Guenée's *Larentia frigidaria*, which, according to Hulst, belongs of the Geometridæ, subfamily Hydriominæ. Hulst gives as a synonym of this species *phocata*

Moschler, which is kept separate by Pagenstecher, but in the same genus (*Cidaria*). Hulst writes (ENT. NEWS, vi, 70, 1895) "The type of *Psychophora sabinii* Curt. is in the [British] Museum. The middle band of the fore wings is quite distinct and it differs very much from the 'seal brown' immaculate form which Dr. Packard had from Polaris Bay [Described by Hulst as var. *polaris*, Bull. U. S. Nat. Mus., 52, 287, 1903]. Var. *frigidaria* Gn. ii, 269, is, I think, not different from the blackish form described by Dr. Skinner as *Glaucopteryx immaculata*. There are some specimens taken in Grinnell Land which closely approach the form which Dr. Packard had."

I wrote to Sir George Hampson to kindly examine Curtis' types, but he writes: "We have not got Curtis' type of *Psychophora sabinii*, but have specimens from Grinnell Land, Nova Zembla and Scandinavia; they are Geometridæ, Larentinæ of perfectly normal structure." Therefore, I have no evidence from the original types, as I hoped to have after reading Hulst's note. The specimens in the British Museum are evidently of the *frigidaria* form.

Hulst's definition of the genus *Psychophora* (Trans. Am. Ent. Soc., xxiii, 290, 1896) is: "Palpi porrect, rough-haired, moderate; tongue developed; clypeus very broad, flattish, rough-scaled; antennæ bipectinate in male, filiform, pubescent in female, thorax rough, hairy. Abdomen rough, hairy, untufted. Wing-vestiture hairy, fore wings 12 veins, two accessory cells,* 3 and 4 close at base, 10 and 11 from cell, 12 free; hind wings eight veined, 3 and 4 close together, 5 at middle of cell, 6 and 7 stemmed, 8 anastomosing with cell to beyond middle; hind legs with two pairs of spurs." To which is added, fore wing with vein 7 stemmed with 8, from the synopsis on page 255.

The second identification of *Psychophora* is typified by Skinner's *P. fasciata*. The generic characters, following Hulst's form are: Palpi porrect, very roughly haired, moderate; tongue developed; clypeus very broad, slightly bulging, hairy; antennæ shortly bipectinate, the pectinations decreasing on outer third, but showing as serrations close to apex, pubescent;

* Should be *one* accessory cell as Hulst's synoptic table gives, and as specimens of *frigidaria* before me show.

thorax rough hairy; abdomen rough hairy, untufted, the ♂ genitalia very prominent. Wings with vestiture somewhat hairy; fore wings 12 veined, with fovea below above base of vein 1, one accessory cell, veins 3 and 4 rather remote at base, 5 from middle of discocellulars (in one specimen nearer to 4 than to 6, and about as near to it as 4 is to 3), 7 to 9 stalked from end of accessory cell, 10 from near end of accessory cell, 11 on cell, 12 free; hind wings 8-veined; 3 and 4 shortly stalked from end of cell, 5 weak at base as is the cross-vein of cell, outwardly stronger, though weaker than the other veins, arising from the middle of the discocellulars, 6 and 7 shortly stalked, 8 anastomosing with cell at basal fourth then free and divergent slightly to end of cell, then more rapidly divergent. Hind legs with two pairs of slender spurs, hairy. Apparently falls in the subfamily Ennominæ.* The moths are, however, stout, and with rather elongate trigonate wings, and do not look like most Geometridæ. But with the character shown it is not admissable to place them in any other family.

To which of these different types does *Psychophora* come nearest?

Kirby in his original description says: "Wings incumbent, antennæ of the male setaceous, bipectinate at base, with short rays . . . . tongue rather long, like that of a Noctua or Phalæna. Feelers recurved, very hairy, consisting of two joints. Antennæ setaceous, bipectinate for about half their length, with a single pair of short rays emerging from each of the branching joints, the other joints are hairy underneath. Wings imcumbent, rather longer than wide, fringed at the end. Tibiæ armed in the middle with a long spur. Abdomen thickish, tufted at the end. Anal forceps consisting of two horny concavo-convex reddish pieces, dilated at the top and rounded . . . . ." Curtis adds: "Antennæ rather short and setaceous, bipectinated in the male, simple in the female, the rays very short at the base and vanishing towards apex [the figure shows the pectinations distinct to outer two-thirds, then shortening but visible close to apex]; each joint producing two which are clavate and pubescent; maxillæ long and spiral; palpi por-

* In Hulsts' tables this falls next to *Nyctiphanta* Hulst, from which it is bviously distinct.

rected horizontally, short and very hairy, projecting a little beyond the head; head and eyes rather small; thorax subglobose and hairy; abdomen short, subcylindrical, tufted at the apex in the male with a pair of horny incurved spoon-shaped forceps; wings, superior subtrigonate, the apex a little angulated in the female; legs, posterior a little the longest; tibiæ, anterior short with an internal spine, the others longer, with a pair of spines at the apex, the posterior also with a pair below the middle; claws simple and distinct."

Unfortunately, the best distinguishing characters are not mentioned by Kirby or Curtis, and Curtis' figure might be interpreted either way. The very hairy palpi, however, seem characteristic of *fasciata*. While *frigidaria* has hairy palpi they are not of the peculiar long bristly appearance of *fasciata*. Moreover, both authors mention prominently the male genitalia, which are extraordinarily conspicuous in *fasciata* but obscured, as in most Geometers, in *frigidaria*. Therefore what evidence can be secured from the descriptions indicates that *Psychophora* applies rather to *fasciata* than to *frigidaria*. It is true that *fasciata* does not seem to be the same species as *sabinii*, but there is quite a difference in the localities from which these two forms come, *sabinii* being from Melville Island and Boothia Felix, 1400 miles east of Point Barrow, Alaska, where *fasciata* was taken. Perhaps the matter cannot be settled finally until true *sabinii* is again at hand. But in the meantime the following seems most probably correct. A new generic name being required for *frigidaria*, I suggest *Scinneria* in honor of Dr. Henry Skinner. The genus will have the characters of Hulst's definition of *Psychophora*, quoted above.

Genus **PSYCHOPHORA** Kirby.

Synopsis of Species.

Fore wings with a basal dark patch and rather narrow median band; hind wings light on the outer fourth with two dark bands on the darker basal part of wing . . . . . **sabinii** Kirby.

Fore wing with no basal patch, the median band broad, nearly reaching anal angle on inner margin; hind wing uniformly whitish. **fasciata** Skinner.

Genus **SCINNERIA** Dyar.

Type *frigidaria* Guen., with forms and synonyms as given by Hulst in Bulletin 52, U. S. National Museum.

A List of Lepidoptera Found in the Adirondack Mts.

By G. F. Comstock.

Lists of Adirondack insects being so few in number, my list may be of sufficient interest to the readers of the News to warrant its being published. It represents three years of butterfly collecting, and one year of careless moth collecting, very few moths having been taken at sugar or light. However, it contains the names of species never before found to my knowledge in the Adirondacks.

The collecting ground was Keene Valley, Essex County, New York, on the Ausable River, about ten miles east from Mt. Marcy, the highest peak of the Adirondacks. About seven miles above Keene Valley the Ausable River has its source in two beautiful lakes which bear its name. At the head of the upper lake there is a large marsh, very wild and full of deer, and in the centre of the marsh is a small grassy meadow, nearly grown up with spruce and laurel. Most of the rarer species of diurnals were taken in this open spot of the wilderness, known as the "Marcy Marsh" from its being traversed by the trail to that peak. On the bare summits of Mt. Marcy and Mt. Haystack I have never seen any butterflies, although I searched for them twice.

I am indebted to Mr. Wm. Beutenmuller of New York for the identification of most of the Noctuidæ.

PAPILIONIDÆ.

Papilio asterias, rare in August.

turnus, very common in June. I have seen 25 or 30 together at once around a mud-puddle.

Pieris rapæ, very common in summer and autumn.

oleracea, common in spring.

Colias philodice, very common everywhere. Albinic females common in autumn.

interior, very rare in July; two specimens from Marcy Marsh, and one from summit of Mt. Baxter, near Keene Valley.

NYMPHALIDÆ.

Danais plexippus, rather common in autumn.

Argynnis cybele, Generally common in autumn, but in 1901 I saw none. No larger than *aphrodite*.

aphrodite, rather common in July and August.

atlantis, common same time as preceding species.
myrina, common in wet meadows in June and July.
bellona, more common than *myrina*.
Melitæa phæton, very rare in wet meadows.
Phyciodes tharos, very common in June.
batesii, very rare in June.
Grapta comma, common in autumn.
progne, common in August.
faunus, common in August.
gracilis, a single specimen from Keene Valley, but saw several in the Marcy Marsh in September.
j-album, common in autumn.
Vanessa antiopa, very common.
milbertii, common in July and August.
Pyrameis atalanta, generally common, but very rare in 1902.
huntera, common in autumn, but saw none in 1902.
cardui, very rare in August.
Limenitis disippus, common in September.
artemis, common in July.
Neonympha eurytris, common in June.
Debis portlandia, very rare in Keene Valley and at Ausable Lakes, July.
Satyrus nephele, common in July.

LYCÆNIDÆ.

Feniseca tarquinius, common, but local.
Chrysophanus hypophlæas, very common.
thoe, rare and local in July.
epixanthe, common in Marcy Marsh in July.
Lycæna comyntas, rather common in autumn.
pseudargiolus, common in spring.

HESPERIDÆ.

Pamphila hobomok, common in June.
" var. *pocahontas*, rare.
sassacus, rare in June.
leonardus, rare in June and September.
otho var. *egeremet*, common in July.
mystic, common in July.
cernes, very common in June and July.
Carterocephalus mandan, very rare in early spring.
Amblyscirtes vialis, common in June, 1900, but rare since.
samoset, rare in June.
Nisoniades icelus, rather common in June.
brizo, rare in June.
Eudamus pylades, common from June to August.

SPHINGIDÆ.

Hemaris thysbe.
" var. *uniformis.*
diffinis.
Deilephila lineata.
Pholus pandorus.
Everyx chœrilus.
Sphinx drupiferarum.
kalmiæ (common).
Amorpha modesta.
Smerinthus geminatus.
excæcatus.

BOMBYCIDÆ.

Lycomorpha pholus.
Eudryas grata.
Eubaphe immaculata var. *trimaculata*
Eubaphe aurantiaca var. *rubicundaria.*
Haploa lecontei.
Halisidota tessellaris.
Phragmatobia fuliginosa.
Arctia virgo
parthenice (common).
intermedia.
Oreta rosea.
Melalopha albosigma.
Telea polyphemus.
Actias luna.
Automeris io.

NOCTUIDÆ.

Pseudothyatira cymatophoroides.
" "
var *expultrix.*
Arsilonche albovenosa
Apatela americana.
impressa.
afflicta.
Adelphagrotis prasina (in Marcy Marsh).
Noctua baja.
normaniana.
haruspica.
Feltia subgothica (very common).
Mamestra imbrifera.
latex.
renigera.
Hadena apamiformis.
devastatrix.
arctica.
Nephelodes minians.
Pyrophila pyramidoides.
Cosmia paleacea.
Orthosia ferruginoides (very common).
Scoliopteryx libatrix.
Plusia ærea (com. on sunflowers).
balluca.
mortuorum (at Aus. Lake).
ampla.
simplex (very common).
Alaria florida.
Drasteria erechtea (very common).
Euclidia cuspidea.
Catocala cerogama.
concumbens.
relicta.
" var. *phrynia.*
Parallelia bistriaris.
Panapoda rufimargo.
Bombolocha lubricalis.

GEOMETRIDÆ.

Prochœrodes clemataria.
transversata.
Tetracis lorata.
Epirranthis obfirmaria.
Therina fervidaria.
Acidalia insularia.
Stegania pustularia.
Opheroptera bruceata.
Baptria albovittata.
Petrophora diversilineata.
Rheumaptera hastata.
ruficiliata.

COLEOPTERA.

Cicindela sexguttata.
Necrophorus tomentosus.
Callidium antennatum.

Chrysochus auratus.
Ellichinia carrusca.
Harpalus viridiæneus.

ODONATA.

Cordulegaster maculatus.
Plathemis lydia.
Libellula pulchella.
Anax junius.
Æschna constricta.
Sympetrum semicinctum.
rubicundulum.

OTHER INSECTS.

Bombylius æqualis.
Pyrgota undata.
Cymbex americana.
Cicada tibicen.
Neuronia semifasciata.
Trimerotropis suffusa.

The Psychophora Mix Up.

By Henry Skinner.

Through the courtesy of Dr. John B. Smith I have been able to study the specimens Dr. Hulst placed under *Psychophora*. There are four specimens, labelled as follows: *Psychophora sabinii* Curtis, Polaris Bay, *Cidaria phocata* Moesch, typical, Laborador, *Psychophora* var. *polaris* Hulst, Polaris Bay, *Glaucopteryx immaculata* Skinner, typical, McCormick's Bay, Greenland. The above geometers belong to the same genus and are not related to *Psychophora* of Curtis. *Psychophora sabinii* Hulst, not Curtis, is a synonym of *Cidaria phocata* Moesch. *Psychophora* var. *polaris* Hulst is an immaculate variety of *phocata* Moesch. *Glaucopteryx immaculata* Skinner and Meng. is a different species, and is probably a variety of *Glaucopteryx* (*Larentia*) *polata* Dup. as the latter were taken in some numbers at the same time and place in Greenland. It is certain that Dr. Hulst never saw the true *Psychophora*. Those mentioned by Sir. Geo. Hampson are evidently not *Psychophora sabinii* Curtis. It is also probable that Dr. Packard did not know the true *Psychophora*. The way these things get mixed in the literature is something appalling. The specimens in poor condition and haste in describing is responsible for some of it. Whether Dr. Dyar's new genus is valid I am not prepared to say, as it would first be necessary to critically examine *Larentia*, *Cidaria*, *Glaucopteryx*, *Amœbe*, *Aplocera*, and doubtless many others.

Records of Lepidoptera in New Jersey.

By Prof. Henry Wormsbacher.

The following were collected during the season of 1902 in Hudson County, Passaic County and Hackensack County, New Jersey, by Prof. Henry Wormsbacher, Jersey City, N. J.

* **Libythea bachmanni** (Kirt).

(Adult)—Fort Lee, July, 11.

† **Enyo lugubris** (Linn.).

Taken at light, Bergen Point, Sept. 24.

* **Deilephila chamænerii** (Harr).

August 2, Passaic Co.

Philampelus linnei (Grt. & Rob.).

Taken at light in Greenwood Lake, Aug. 31.

Ampelophaga versicolor (Harr).

(Larvæ)—Aug. 18, Fort Lee.

Sphinx kalmiæ (Sm. & Abb).

(Eggs)—June 27; July 8, 11, 15, 22, 30; Aug. 1, 3, 8. (Larvæ)—July 22, 30.

‡ **Sphinx Chersis**.

Aug. 3, 4, 8; Sept. 7 (Adults)—Aug. 13, 21 (all taken in Passaic Co.).

Sphinx luscitiosa (Clem).

(Eggs)—June 13, 18. (Larvæ)—July 8, 11, 16, 21. (Adult)—July 28, 30 (taken near Passaic).

Dolba hylæus (Dru).

(Eggs)—June 15, 17. (Larvæ)—July 25; Aug. 1, 12, 15, 26; Sept. 1, 8 (taken in Woodridge, Bergen Co.).

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* This means very rare.

† This means not listed in Smith's State Book, and therefore new to New Jersey.

‡ Sphinx Chersis: (Eggs)—July 22, 23, 30; August 1, 3, 4, 8, 10, 11. (Larvæ)—July 15; August 1, 3, 8, 10, 16, 17, 24, 26, 29, 31; September 1, 7, 8, 10, 12, 14, 21; October 2. (Adult)—August 4.

† **Chlænogramma jasminearum** (Bdv.).

(Eggs)—July 9, 22, 28. (Larvæ)—July 30; Aug. 1, 4, 8, 10, 11, 16, 17, 29; Sept. 5, 8, 19 (Hasbrook Heights, Hackensack Co.).

Triptogon modesta (Harr).

(Larvæ)—Aug. 22; Sept. 3 (Hackensack, N. J.).

† **Paonias Astylus** (Dru).

(Larvæ)—Sept. 10, 12, 16, 19, 21; Oct. 3, 5, 10 (Coytsville, near Fort Lee).

Attacus angulifera (Wlk).

(Larvæ)—Aug. 6, 14, 25; Sept. 16 (Bayonne, N. J., and Coytsville).

Citheronia regalis (Fabr).

(Adult)—July 15. (Larvæ)—Aug. 2, 10, 12, 18, 26, 29; Sept. 5, 16, 23, 25 (Coytsville, Little Ferry and Woodridge).

Dryocampa rubicunda (Fabr).

(Larvæ)—Aug. 15, 26 (Woodbridge, N. J.).

Tolype vellada (Stoll).

(Larvæ)—July 8 (Carlstadt, N. J.) (Pupæ)—Aug. 15, 26 (Woodridge).

* **Tolype laricis** (Fitch).

(Adult)—Sept. 10 (Woodridge, at light).

Ecpantheria scribonia (Stoll).

(Adult)—June 24 (Fort Lee).

Acronycta hasta (Gn).

(Larvæ)—Aug. 5, 13 (Westside, Greenville).

Acronycta afflicta (Grt)

(Adult)—July 29 (Woodridge).

Psyche confederata (G. R.).

(Larvæ)—May 24, 26, 29 (on dogwood (Fort Lee).

Trachea delicata (Grt).

(Adult)—Aug. 18 (Fort Lee).

† **Caradrina multifera** (Wlk).

(Adult)—Aug. 12 (Woodridge, N. J.).

* **Orthodes infirma** (Gn).

(Adult)—June 16 (Little Ferry).

Xylina laticinerea (Grt).

(Adult)—Oct. 20 (Carlstadt).

Acontia delecta (Wlk).

(Adult)—Aug. 19 (Little Ferry).

† **Melipotis nigrescens** (G. & R.)

(Adult)—June 14 (Fort Lee).

Catocala relicta (Wlk).

(Adult)—Aug. 5 (Jersey City Heights).

Catocala relicta, var. **phrynia** (Edw.).

(Adult)—July 18 (Jersey City Heights).

Catocala subnata (Cr.).

(Adults—Aug. 2 (Passiac Co.).

† **Apatelodes angelica** (Grt).

(Larvæ)—Aug. 26, 29, 31; Sept. 5, 12, 16, 25 (Fort Lee and Coytsville).

Hyparpax aurora (S. & A.).

(Adult)—June 24; July 14 (Guttenberg and Fort Lee).

* **Œdemasia exima** (Grt).

(Adult)—June 14 (Fort Lee).

† **Ichthyura brucei.**

(Adult)—June 18 (near Passaic, N. J.).

A COURSE IN ENTOMOLOGY, to begin October, 1903, has been authorized by the Academic Council, University of Pennsylvania. It is to be an elective for students in Arts and Science and in Biology, and will be under the charge of Dr. P. P. Calvert.

ON THE 9th of October, 1902, Prof. C. O. Thurston, of Kingston, Luzerne Co., Pa., found a specimen of *Thysania zenobia* on a telephone pole, near an electric light.—HENRY SKINNER.

The Coccidae of Ohio.

By George B. King, Lawrence, Mass.

In Bulletin No. 37, New Series, U. S. Department of Agriculture, Division of Entomology, 1902, pp. 109–113, will be found a partial list of the Coccidæ of Ohio, by F. M. Webster and A. F. Burgess.

The authors of the list give Prof. Cockerell and myself due credit for the identification of the larger portion of the Coccids listed. The list, however, by some means, is awfully mixed and misleading; so much so, that Prof. Cockerell wishes me to publish a revised list, and sent me a box of scales, which he had received from Prof. J. G. Sanders, collected in Ohio by him. These have been identified as follows:

Eulecanium quercitronis Fitch on *Quercus alba* at Catawba, O., July 29, 1902. The locality and scale are new to the Ohio list.

Eulecanium fletcheri Ckll. on cedar at Catawba, I. S. O., July 29, 1902. A new locality.

Aspidiotus ancylus Putn. on *Tilia americana* at Cleveland, O., Aug. 25, 1902. A new food plant for the Ohio list.

Aspidiotus perniciosus Comst. kilmarneck willow (*Salix capræ* var. *pendea*) at Pinesville, O., July 19, 1902.

Aspidiotus ostreæformis Curtis on willow, Pomesville, O., July 19, 1902. A new locality and food plant for Ohio list.

Chionaspis furfurus Fitch on *Hicoria alba* at Catawba, I. S. O., July 25, 1902. A new food plant and locality for Ohio list.

Chionaspis lintneri Comst. on *Cornus florida ?* Sandusky, O., August, 1902. Coll. of H. Osborn. New to the Ohio list.

Mytilaspis ulmi L. on *Populus deltoides*, Pinesville, O., July 2, 1902. A new locality.

The following are the leading errors in the Ohio list: No. 4 (following the published list) *Phenococcus aceris* Sign. This species has never been found in North America. A species allied to it has been described in Can. Ent., August 1902, p. 211, as *Phenacoccus acericola* King.

Pseudococcus longispinus Targ. No. 5, *Pseudococcus* (*Dactylopius*) *citri* Risso not of Boisduval.

No. 6 and 7 are one species. There is no such thing as *Dactylopius adonidum*. See Proc. Acad. Nat. Sci. Phil., 1899, p. 261, under *Coccus adonidium* (the article is by Prof. Cockerell).

No. 13, *Asterolecanium variolosum* Ratz. not of Ckll.

No. 17 and 18 are now separated from *Lecanium* and placed in the subgenus *Eulecanium*.

No. 19, *Eulecanium oleæ* belongs to the genus *Saissetia*.

No. 27, *Eulecanium nigrum* and *depressum* are distinct species, which also belong to the genus *Saissetia*; both species are little understood.

No. 45 and 49 are one species—*Aspidiotus ficus*: and *Chrysomphalus aonidum* being correct. See Biologia Centrali-Americana, 1899, p. 25.

On the genera *Diaspis* and *Aulacaspis*, see Entomologist, vol. 35, p. 58, 1902. I must confess that I do not know how to place these, as they seem to be somewhat mixed as yet, their generic characters not being well defined.

Nos. 57, 58 and 60 are all one species, *Mytilaspis ulmi* being correct.

No. 59 is *Mytilaspis becki* not *M. citricola*.

Nos. 61 and 69 are one species; *Howardia biclavis* is correct, it was described as a *Chionaspis*.

The revised list is as follows:

Eriococcus azaleæ *Comst.*
Gossyparia ulmi *Geoff.*
Phenacoccus osborni *Sanders.*
acericola *King.*
Dactylopius citri *Risso.*
longispinus *Targ.*
Kermes galliformis *Riley.*
trinolatus *Bogue.*
pubescens *Bogue.*
andrei *King.*
Orthezia americana *Walk.*
insignis *Dougl.*
Lecaniodiaspis celtidis *Ckll.*
Asterolecanium variolosum *Ratz.*
Pulvinaria innumerabilis *Rathv.*
acericola *W. and R.*
Eulecanium armeniacum *Craw.*
caryæ *Fitch.*
fletcheri *Ckll.*
cockerelli *Hunter.*
fitchi *Sign.*
canadense *Ckll.*
websteri *King.*
tulipiferæ *Cook.*
magnoliarum *Ckll.*
nigrofasciatum *Perg.*
persicæ *Fabr.*
quercifex *Fitch.*
prunastri *Fonsc.*
Saissetia oleæ *Bernard.*
depressum *Targ.*
hemisphærica *Targ.*

Calymnatus hesperidum *Linn.*
Aspidiotus hederæ *var.* nerii *Bouché.*
juglans-regiæ *Comst.*
ostreæformis *Curtis.*
rapax *Comst.*
perniciosus *Comst.*
aurantii *Mask.*
ancylus *Putn.*
forbesi *Johns.*
cyanophylli *Sign.*
obscurus *Comst.*
comstocki *Johns.*
uvæ *Comst.*
glanduliferus *Ckll.*
crawii *Ckll.*
Chrysomphalus dictyospermi *Morg.*
aonidum *Linn.*
Diaspis cacti *Comst.*
boisduvalii *Sign.*
Aulacaspis pentagona *Targ.*
rosæ *Bouché.*
bromeliæ *Kerner.*
Parlatoria pergandei *Comst.*
zizyphus *Lucas.*
Mytilaspis ulmi *Linn.*
becki *Newm.*
Chionaspis furfurus *Fitch.*
pinifolii *Fitch.*
corni *Cooley.*
salicis-niger *Walsh.*
americana *Johns.*
ortholobis *Comst.*
euonymi *Comst.*
lintneri
Howardia biclavis *Comst.*

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" " " 13, 1879, p. 325.
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" " " 27, 1895, p. 255.
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Ohio Hort. Soc. Rpt., 1895.
Fitch First Rpt. N. Y., 1856, p. 32.
Ohio State Bull., 96, pp. 22, 25.
Insect Life, vol. 4, p. 213.

The original list, as published, cited 71 species. We have reduced it to 65 and have added two more species new to Ohio, which brings the revised list to 67.

WILL YOU KINDLY publish the following note of explanation? In Bulletin 58 of the Delaware Experiment Station recently published, the legend to Plate III, fig. b, states that scales are on "orange peel." This should be apple peel. The error occurred by the writer not having opportunity to read proof.—E. DWIGHT SANDERSON.

ENTOMOLOGICAL NEWS.

[The Conductors of ENTOMOLOGICAL NEWS solicit and will thankfully receive items of news likely to interest its readers from any source. The author's name will be given in each case, for the information of cataloguers and bibliographers.]

To Contributors.—All contributions will be considered and passed upon at our earliest convenience, and, as far as may be, will be published according to date of reception. ENTOMOLOGICAL NEWS has reached a circulation, both in numbers and circumference, as to make it necessary to put "copy" into the hands of the printer, for each number, three weeks before date of issue. This should be remembered in sending special or important matter for a certain issue. Twenty-five "extras," without change in form, will be given free, when they are wanted; and this should be so stated on the MS., along with the number desired. The receipt of all papers will be acknowledged.—ED.

PHILADELPHIA, PA., JUNE, 1903.

The NEWS is in a more prosperous condition at the present time than at any period of its history. We have maintained the same low price, but have greatly increased the number of pages and the value and number of our illustrations. The present issue contains forty-six pages, as we are desirous to get the papers we have on hand into print as soon as possible. There is no good reason why the NEWS should not contain at least fifty pages in each number, as the interest in Entomology has materially increased in the last five years. It would benefit all our subscribers if each one of them would get at least one additional subscription so that we could maintain a journal that would fully represent the Entomological interest of America and be a credit to the study. A well illustrated, fifty-page, monthly journal of Entomology is a pleasant thing to contemplate, and we hope to see it come to pass in the near future.

NEARLY all the plates of Sphingidæ, by Weidemeyer, Calverly and Edwards have been sold. These plates were commenced about 1862 and never issued. The American Entomological Society purchased the copies owned by Mr. W. H. Edwards, which are now being sold. There are twenty-seven plates and numerous figures. The limited edition will make this work very scarce and valuable. An account of the history of the plates and an up-to-date list of the species accompanies each set.

CASSIDA NIGRIPES.—In Bull. 35, N. M. Exp. Sta., I commented on the occurrence of this sweet potato pest in places where sweet potatoes are not grown. At Las Vegas, N. M., I find that it lives upon *Convolvulus incanus*. A specimen from this plant has been examined at the National Museum, and found to be genuine *C. nigripes*.—T. D. A. COCKERELL.

Entomological Literature.

A Genealogic Study of Dragon-fly Wing Venation. By James G. Needham, of Lake Forest College, Lake Forest, Illinois. Proceedings U. S National Museum, xxvi, pp. 703-764, pls. xxxi-liv, 44 text figs. Washington, 1903.

This is that "extended paper upon the venation of this order" that we were promised in The American Naturalist for December, 1898, and which certain of us have been eagerly expecting. The realization is not disappointing, for here is a wealth of structural details and of suggestions, often of proof, as to the meaning and use of those details. The subject matter is technical and special, and only those who will carefully study the numerous and excellent plates and figures will really appreciate the text. The Odonate wing is treated by areas, as those of the stigma, the nodus, the quadrangle, and the anal loop. An important "summary of the more general tendencies of vein evolution within the order" is given on pages 730 and 731.

The lines of specialization of venation are traced, first for the Anisoptera, then for the Zygoptera, leading to "a scheme of sub-families for the order which seems to me to be, in the light of the evidence that present knowledge of venation affords, an approximation toward equivalent values for these groups." This scheme follows:

Anisoptera: Family Æschnidæ, subfamilies 1. Gomphinæ (recent and fossil), 2. Petalurinæ (r., f.), 3. Stenophlebinæ (f.), 4. Cordulegasterinæ (r., f.), 5. Chlorogomphinæ (r.), 6. Æschninæ (r., f.), 7 Æschnidiinæ (f.), 8. Heterophlebinæ* (f.).

Family Libellulidæ, subfamilies, 9. Macromiinæ (r.), 10. Cordulinæ (r. f.), 11. Libellulinæ (r. f.).

Zygoptera: Family Calopterygidæ, subfamilies, 12. Palæophlebinæ† (r.), 13. Epallaginæ (r. f.). 14, Vestalinæ (r.) 15, Thorinæ (r.)

Family Agrionidæ: subfamilies, 16. Lestinæ (r. f.), 17. Agrioninæ (r. f.).

It will be noted that the Anisoptera begin this series. The relative

* Placed among the Calopterygidæ, in the table on page 750, but belonging to the Æschnidæ, as indicated on page 732, and as Prof. Needham has called to our attention by mail; the number given it above is quite conjectural as a statement of his ideas, however.

† This is for the genus *Palæophlebia* described by de Selys from Japan in Comp. Rend. Soc. Ent. Belg., xxxiii, p. clv., for Sept. 7, 1889. There is also a fossil Odonate of the same generic name, described by Brauer, from the East Siberian Jurassic, in Mem. Imp. Sci., St Petersbourg, xxxvi, 15, p. 6, "imprimé Mars 1889," and referred by him to the legion Podagrion. Brauer's name apparently having priority, another term must be found for the Selysian genus, and I would therefore suggest **Epiophlebia** from ἐπιών and φλεψ, φλεβος.

primitiveness of these two suborders (*pace* Dr. Gill) is nowhere distinctly discussed. Expressions supporting the claims of the Zygoptera may be found on pages 719*, 731 and 732, while the Anisoptera may find comfort on pages 711, 721 and 722. The various groups are nowhere formally defined, and it is not always easy to determine their limits from the references made to them in the text.

"Dynamic control in wing evolution" is considered with especial reference to the formation of bracing veins. In the summary of the article is included a criticism of the present systematic grouping of fossil Odonata with which the writer can well agree, on independent grounds.

The ontogenetic method of study of wing veins which we owe to Professors Comstock and Needham has certainly yielded some striking surprises in the Odonata as well as among other insects. One of these is what Prof. Needham here calls "that most distinctive peculiarity of dragon-fly wings, the crossing of the radial sector [subnodal sector of de Selys and Hagen] over two branches of the media [principal and nodal sectors, de S. and H] and the development of the bridge" [basal portion of the subnodal sector]. Another illustration is afforded by the true history of the vein whose basal end was termed postcosta by de Selys. In 1893 there seemed to be good reason for believing that it was continued to the wing margin by the "second sector of the triangle," and I considered the two as one and the same vein. Now it is shown that this apparently continuous vein (e. g. in some Zygoptera) is developed from two originally distinct and separate tracheæ.

Finally, attention should be called to the fact that there are numerous suggestions for further research contained in this paper, which its author modestly terms "only a beginning of what should be done in the study of the venation of the order. PHILIP P. CALVERT.

* "Beyond," in line 14 from the bottom, is apparently an error for "proximal to."

Doings of Societies.

At the meeting of the Feldman Collecting Social held April 15th, at the residence of Mr. H. W. Wenzel, 1523 S. 13th St., Philadelphia, eleven persons were present. Mr. H. W. Wenzel read a letter from our fellow-member, Dr. Castle, who is now collecting in Florida.

Mr. Biederman spoke on collecting *Arctinotus lucidus* on the Rogue river. He had taken over 20 specimens from February 13th to 21st., the thermometer being from 10 to 12 degrees above zero, and the specimens had evidently just emerged from the chrysalis. They apparently do not fly before 9.30 P.M., and he had never captured it after 1 A. M. He had not suc-

ceeded in finding the larva. Another sphingid he had observed copulating on the snow in January.

Prof. Smith spoke of Noctuidæ, chiefly *Amolita* and *Eucalyptra* which had been received from Florida. In *Eucalyptra* two species had been described, but the present material contains no less than eight. *Doryodes spadaria* Guenée had been discovered in some New Jersey material, although an examination of Guenée's type is necessary to verify this, as his description also applies well to a southern species of the same genus. He spoke of the advisability of collecting large series of specimens.

Mr. Daecke referred to *Anisota stigma*, observed at Da Costa, N. J. In the morning the specimens were hanging separated, while in the afternoon they were flying about and mating. After 4 P. M. they had entirely disappeared.

Mr. H. W. Wenzel stated he had seen a large number of small moths on the meadow side of Anglesea, N. J., on February 11th.

Prof. Smith stated that on February 3d, and several days succeeding, a party of collectors had found but little insect life at Anglesea, N. J.

Mr. Wenzel referred to early spring collecting at Anglesea. Water-beetles, which had been formerly quite common, were this year very rare.

Mr. Daecke exhibited mosquitoes recently captured in Philadelphia, which Prof. Smith determined as *Culex pungens;* also specimens of *Blaps similis*, *Lachnosterna parvidens*, *Donacia torosa* and *Allecula nigrans* from New Jersey, which are new to the New Jersey list.

Mr. Haimbach exhibited two specimens of *Melipotis nigrescens* taken in Fairmount Park, Philadelphia, in June.

Dr. Skinner stated that the larva of the rare *Arzama melanopyga* had been found commonly in the stem of the bonnet lily in Florida.

Mr. Biederman spoke on the habits of *Cicindela roguensis*.

Mr. Wenzel stated that this species is the same as *Cicindela vibex* How. WILLIAM J. FOX, *Secretary*.

A meeting of the Entomological Section of the Chicago Academy of Sciences was held in the John Crerar Library Thursday evening, April 16, 1903. Seven members were pres-

ent. The Recorder officiated in the absence of the chairman. After the transaction of the regular business Mr. W. L. Tower took the floor. The paper which was to have been read was one on metamorphoses, but, as Mr. Tower had already published his article on that subject, a paper on the development of color pattern and pigmentation in insects took the place of it.

The lecture proved very interesting and was an excellent demonstration of the careful study which the speaker had given his subject. Drawings prepared for publication were shown in connection with the lecture. Mr. Tower presented each member present with copies of two of his recent publications. Adjournment. JOHN COMSTOCK, *Recorder.*

The regular monthly meeting of the Entomological Society of Western Pennsylvania was held Saturday evening, May 2d, at Carnegie Museum, Pittsburg, Pa., President W. J. Holland presiding. Eleven members were present. Henry Engel, Fred Marloff, Geo. and B. J. Krautworm and F. W. Friday reported good and rare catches of moths this spring. Dr. W. J. Holland exibited plates of his new moth book which he is completing, and also the plates of Rothschild and Karl Jordan's revised edition of the *Sphingidæ of the World*, which is about to be published. Both of these works will exceed anything that has been published under this order of insects. Sphingidæ and Sesiidæ of the U. S. are to be taken up next meeting night, and members are requested to bring list of same taken in this locality, and if they have any doubtful specimens to bring same with them and have them identified. After some very interesting remarks by Dr. W. J. Holland, meeting adjourned to meet first Saturday in June. F. W. FRIDAY, *Secretary.*

A meeting of the American Entomological Society was held May 23d. Dr. P. P. Calvert in the chair. Fourteen persons present. Mr. C. R. Biederman visitor. Mr. Rehn called attention to a parasite found in the abdominal cavity of a grasshopper, *Melanoplus femur-rubrum*. It was the larva of a fly of the genus *Sarcophaga*. Dr. Calvert said many specimens of the grasshopper had been dissected in class-work, but this was the first instance of the parasite being found by him, and

may therefore be considered rare. Dr. Skinner exhibited a living tick, *Ornithodorus megnini* Duges. It had been for several months in the ear of a man who lived in Fremont Co., Idaho, for several months. It emerged from the ear on Sept. 15, 1902.* The specimen was kindly identified by Mr. Nathan Banks, who wrote as follows: "It occurs in Mexico and the Southwest. I have seen specimens from as far north as Nebraska; I guess this is about the same region. It occurs in the ears of horses, cattle, etc., and sometimes in man. It is usually in the ear in the nymphal condition. They can usually be dislodged by the use of a little oil." The specimen was received wrapped in a paper and has since been kept in a pill box. The specimen is therefore nearly a year old, and still hale and hearty.

Mr. Laurent exhibited a specimen of *Tramea carolina* taken April 15th, in Fairmount Park, by Horace Ebert. The previous earliest record was May 26th (Calvert). Dr. Skinner exhibited the larva of *Arzama melanopyga* Grote, which feeds on the bonnet-plant in Florida. These larvæ attract blackbirds in great numbers, the birds pulling them from the stalks of the plants.

Mr. Rehn exhibited some roaches covering the old and new worlds. *Ectobius*, new to New Zealand, was shown. Also some new species from the West Indies. *Colocampra*, n. sp. from Cuba, and a new sp. of *Epilampra* from South America. The difference between some of these genera were pointed out. Dr. Calvert spoke on the formation of local races in the dragonflies. *Amphigrion saucium* was mentioned. Those from Dakota and westward are hairier than those from further east. *Ischnura denticollis* ranges from southern California and Arizona to southern Mexico Those from Southern California and Arizona have fewer cross-veins on the second half of the forewings than those from farther South. *Calopteryx æquabalis*, from the east, has a race known as *yakima* from the west. The latter has the dark color on the tip of the wing of greater extent. Variations in size in a single species was shown in specimens of *Megaloprepus cœrulatus* from Panama.

HENRY SKINNER, *Secretary*.

* At this time, May 20, '03, it is still alive.

EXCHANGES.

Not Exceeding Three Lines Free to Subscribers.

☞ These notices are continued as long as our limited space will allow; the new ones are added at the end of the column, and only when necessary those at the top (being longest in) are discontinued.

Identification of Insects (Imagos) for Subscribers.

Specimens will be named under the following conditions: 1st, The number of species to be **limited to twenty-five** for each sending; 2d, the sender to pay all expenses of transportation and the insects to become the property of the American Entomological Society; 3d, Each specimen must have a number attached so that the identification may be announced accordingly; 4th, All insects must be mounted. Exotic species named only by special arrangement with the Editor, who should be consulted before specimens are sent. Send a 2-cent stamp with all insects for return of names. **Please put date of capture and exact locality on each specimen.** Before sending insects for identification, read page 41, Vol. III. Address all packages to ENTOMOLOGICAL NEWS, Academy Natural Sciences, Logan Square, Philadelphia, Pa.

For Exchange.—Coleoptera of Southwestern Penna., in sets of four, with data for Coleoptera or Lepidoptera. Send lists, T. N. Brown, Uniontown, Pa.

Wanted.—Cerambycidæ (Longicorns) of the Americas. State number, price and locality. Fred. C. Bowditch, 164 Rawson Rd., Norfolk Co., Mass.

Pupæ Exchange.—Crysalids of H. Maia and others; also cocoons to exchange for other native pupæ and cocoons. W. T. Buxton, 152 Walnut St., Somerville, Mass.

Wanted.—Cocoons *Attacus angulifera, ceanothi, gloveri, A. luna, E. imperialis*, to exchange for butterflies and moths. *Catocala* in papers from Illinois.—Adolf Mares, 1671 W. 23d St., Chicago, Ill.

Tortricidæ, Tineidæ and **Pyralidæ**.—I will identify specimens of these subfamilies, from all N. Am. localities, for privilege of examination and records. Genera and specific names per Dyar's Catalogue. Will also exchange.—W. D. Kearfoot, 114 Liberty St., New York, N. Y.

Diptera.—*Rhamphomyia* of the world wanted. Will exchange for Texas or Illinois insects (not Lepidoptera).—A. L. Melander, The University of Chicago.

Wanted, by purchase or exchange, photographic prints and lantern slides illustrative of insect life.—W. L. W. Field, Milton, Mass.

Wanted —December, 1899, Entomological News. Address F. W. Friday, 17 Grace St., Pittsburg, Pa.

Wanted.—*Catocala* and *Sphinx* of the Northwest and Southwest in exchange for other native exotic and European butterflies and moths. Send list to Chas. F. Timm, 131 Ralph St., Brooklyn, N. Y.

Exchanges solicited in moths, butterflies of N. America. Catocalas preferred. Send lists to Jos. H. Reading, 775 N. Rockwell St., Chicago, Illinois.

Lepidoptera from all parts of the world to exchange for species not in my collection.—Frank Haimbach, No. 1309 Allegheny Avenue, Philadelphia, Pa., U. S. A.

Lepidoptera.—Fertile eggs of *Argynnis diana* wanted.—John Ruston, 10 Carlton Road, Workrop, Nottingamshire, England.

North American Butterflies wanted in exchange for Lepidoptera of Southern California.—P. H. Hart, Pasadena, Cal.

Butterflies for exchange. Expect to have limited number of *Œneis chryxus, P. smintheus, Basilarchia weidemeyeri* and others during summer. Send lists of what you have.—A. M. Hendee, Central City, Colo.

Will collect in all orders. Would like named or unamed Coleoptera in exchange. Please write to G. Chagnon, P. O. Box 186 Montreal, Can.

Moths of Pennsylvania and New Jersey. The undersigned will give good exchange in cash or specimens for moths of Pennsylvania and New Jersey that are new to his collection. Send list of rare species only.—Philip Laurent, 31 East Mt. Airy Ave., Philadelphia, Pa.

Wanted.—Sphegidæ of North America, Mexico and the West Indies (as included in Cresson's Synopsis) for study in connection with a revision of the group. Material sent will be returned named as far as possible.—H. T. Fernald, Amherst, Mass.

I will give Lepidoptera, publications or cash, for Smith's "Monograph of the Sphingids," published in Vol. xv, Trans. Ent. Soc., Acad. Nat. Sciences, 1888.—H. H. Newcomb, 35 Court St., Boston.

Hymenoptera.—Will be pleased to send duplicates in return for identifications.—Charles Stevenson, 906 St. Urbain Street, Montreal, Canada.

Wanted for cash, fertile ova of *regalis, imperialis, triptogon modesta, Augulifera.*—H. M. Peinze, Northboro, Mass.

Will collect in all orders, insects of South East New England for Lepidoptera of North America.—L. W. Tilden, Box 54, New Bedford, Mass.

Wanted.—Fertile eggs, *Cith. regalis*, also all kinds *Thecla* and *Lycaena* for Lepidoptera from here.—H. M. Boyer, 220 Hudson Street, Reading, Pa.

Wanted.—Life histories in all orders of insects. Will pay cash or give exchange for same. Write what you have, and state lowest cash price.—Denton Bros., Wellesley, Mass.

Desirable Lepidoptera for exchange. Would like to receive lists of good species.—John Comstock, 1572 Ridge Ave., Evanston, Ill.

I will collect Lepidoptera, Coleoptera, Hpmenoptera, Hemipteraof this locality, in exchange for Diurnal Ledidoptera of the United States, or named Diurnals of foreign countries. Write at once.—M. E. Hoag, D. D. S., Oakville, Iowa, U. S. A.

I will give Lepidoptera, publications or cash for Smith's "Monograph of the Sphingids," published in Vol. xv, Trans. Ent. Soc., 1888.—H. H. Newcomb, 35 Court Street, Boston.

Parnidæ.—Parnidæ of the world wanted. Will pay cash or give exchange. (Correspondence French, German or English).—William D. Richardson, Fredericksburg, Virginia.

Wanted.—Ent. News, vol. viii, No. 6.—Louis H. Joutel, 164 E. 117th Street, New York City.

Arctians.—Living eggs or larvæ of any North American moths of the genus *Apantesis* wanted for purposes of studying preparatory stages. Will be glad to render help, if possible, as to wants of anyone assisting. Arthur Gibson, Cent. Exp. Farm, Ottawa, Can.

N. A. Lepidoptera desired. Those willing to collect, in exchange for European specimens, please communicate with James McDunnough, care Wilson, 385 Gt. Western Rd., Glascow, Scot.

Lepidoptera.—I have *Paonias astylus, Chaenogramma jasmineorum, Sphinx kalmiæ, plebeius* and other Sphingidæ of the Atlantic States for exchange for specimens not in my collection. Send lists.—Prof. Henry Wormsbacher, 122 Hutton St., Jersey City, N. J.

For Exchange.—Several thousand Colorado and Utah Lepidoptera in papers and pinned on small black pins. Will trade for a Winchester repeating take-down shot gun in perfect condition.—Arthur J. Snyder, Belvidere, Illinois.

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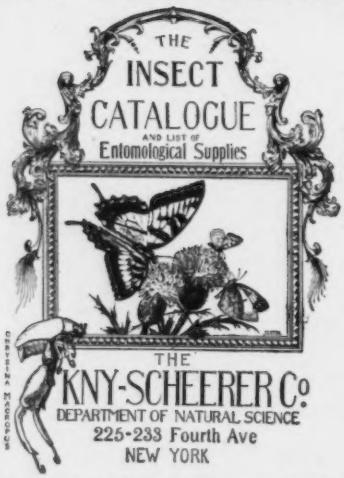

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